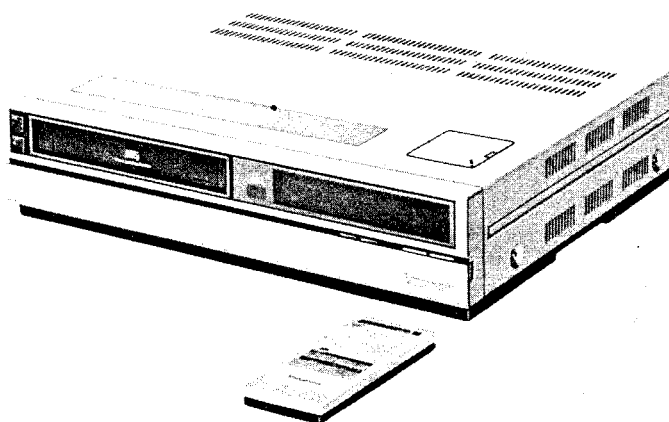


Service Manual

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List

Video Cassette Recorder

Panasonic **VHS**
NV-730 EG
EO


SPECIFICATIONS

Power Source: 220 V AC 50/60 Hz (NV-730-E/-EG/-EO)
 240 V AC 50/60 Hz (NV-730-B)
 Power Consumption: Approx. 30 watts
 Television System: CCIR: 625 lines, 50 fields
 PAL colour signal

Video Recording

System: 2 rotary heads, helical scanning system
 Luminance: FM azimuth recording
 Colour signal: converted subcarrier
 phase shift recording

Audio Track: 1 track
 Tape Format: Tape width 12.7 mm high density tape
 Tape Speed: SP mode: 23.39 mm/s
 LP mode: 11.695 mm/s

Record/Playback Time: 240 or 480 min. with NV-E240
 FF/REW Time: Less than 5.5 min. with NV-E180
 Video: 4 rotary heads
 1 pair for SP mode recording
 and playback (SP-R/SP-L Head)
 1 pair for LP mode recording
 and playback (LP-R/LP-L Head)
 Audio/Control/Audio Erase:
 1 stationary head
 Erase: 1 full track erase

Input Level: Video: VIDEO IN connector (BNC)
 1.0 Vp-p, 75 Ω terminated
 Audio: LINE IN jack (Phono jack)
 More than -10 dB, 50 k Ω
 TV Tuners: VHF CH E2 ~ CH U9
 (NV-730-EG/-EO)
 CH 2 ~ CH 12 (NV-730-E)
 UHF CH 21 ~ CH 69

Output Level: Video: VIDEO OUT connector (BNC)
 1.0 Vp-p, 75 Ω terminated
 Audio: LINE OUT jack (Phone jack)
 -8 dB, less than 1 k Ω

RF Modulated: UHF CH 36
 75 $\pm$ 3 dB 75 Ω unbalanced

Weight: 9.0 kg
 Dimensions: 430(W) $\times$ 99(H) $\times$ 367.5(D) mm
 Accessory Supplied: 1 pc. DIN-RF Cable
 1 pc. Wireless Remote Controller
 1 pc. Video Cassette Tape
 (NV-730-E/-B/-EO)

Optional Accessory: Video Cassette Tape:
 NV-E240 Approx. 344 m, 240 min
 NV-E180 Approx. 258 m, 180 min
 NV-E120 Approx. 174 m, 120 min
 NV-E60 Approx. 88 m, 60 min

Weight and dimensions shown are approximate.
 Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
 P.O. Box 288, Central Osaka, Japan

INTRODUCTION

This service manual contains technical information which will allow service technicians to understand and service the PAL VHS Video Cassette Recorder Model NV-730E/EG/B/EO.

The NV-730E/EG/B/EO has many special features as shown in page 1-1.

These features in addition to the basic PAL VHS Format make the unit an ideal one for your culture and entertainment.

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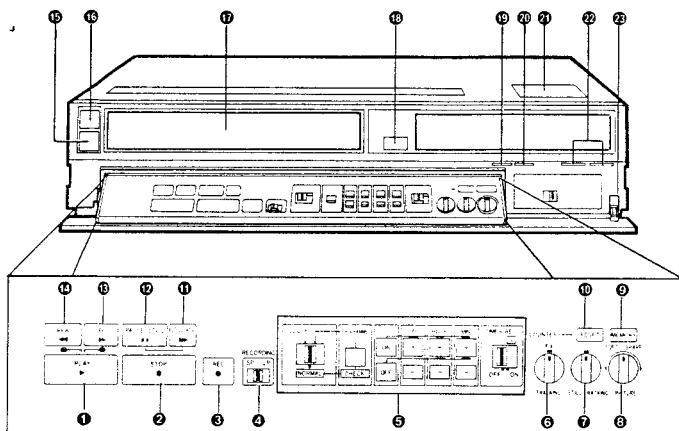
REMARKS: NV-730EG West Germany model only

This set can be used for special recording/playback of SECAM colour signal.

SECAM tapes which have been recorded on specified SECAM-VHS recorder can be played back in black-white on this set.

1-2. CONTROLS AND COMPONENTS

TOP AND FRONT



1 Play Button
Push to play back a recorded tape.

2 Stop Button
Push to stop the tape.

3 Record Button
Press this button to start the recording.

4 Tape Speed Selector
This VTR is selected two recording speed modes. They are named "SP mode" and "LP mode". Select the desired tape speed before recording with the Tape Speed Selector.

Types of Video Cassette	Recording and Playback Minutes	
	SP mode	LP mode
NV-E240	240	480
NV-E180, NV-E180HG	180	360

5 Timer Controls
The timer controls are used to set the clock for the present time and to programme start and stop for timer recording.

6 Tracking Control



Noise Picture

Tapes recorded on another machine show noisy or a streaky playback picture, rotate this control slowly in either direction until the picture is clear. The control should normally be kept in the "FIX" position.

7 Still Tracking Control

When noise bars appear in the still playback mode, slowly turn the Still Tracking Control while pressing the Button repeatedly, to minimize the noise bars in the picture. It may not be possible to eliminate the noise bars completely.

8 Picture Sharpness Control

The picture sharpness control enables the playback picture to be adjusted so that its outlines are made more sharper or softer.

It has no effect when recording.

9 Memory Button

If you want find a certain tape position again later, reset the tape counter at that point and press the "memory" button once.

During Rewind or Fast Forward, the tape will stop automatically at the tape counter position "0000".

10 Reset Button

Push the reset button to reset the Counter of Multi-Function Display to "0000".

11 Still Advance Button

During pause mode, press the Still Advance Button. Each time you press this button, the still-picture will advance one single field. A slow motion effect with noise is obtainable by holding down the Still Advance Button (about 1/6 speed of normal playback).

12 Pause/Still Button

Push to temporarily stop the tape during recording in order to avoid recording unwanted material, or to view a paused picture during playback. Push again to release the tape from pause.

13 Fast Forward/Cue Button

Push to fast-forward wind the tape.

When this button is pressed during playback, the picture can be scanned will play back at 5 times (SP mode) or 9 times (LP mode) normal speed.

Cueing will continue as long as the button is depressed.

14 Rewind/Review Button

Push to rewind the tape.

When this button is pressed during playback, the picture can be scanned in reverse at 5 times (SP mode) or 9 times (LP mode) normal speed.

Review will continue as long as the button is depressed.

15 Eject Button

Press this button to remove the cassette.

16 VTR ON/OFF Switch

17 Cassette Holder

18 Infra-red Remote Control Receiver

Receives the signal from the Infra-red Remote Control.

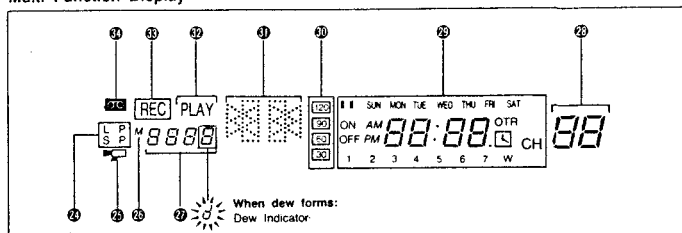
19 Stand by Button

OTR recording can start after a delay of 30, 60, 90 or 120 minutes.

1. Select the TV channel to be recorded.
2. Press the "stand by" Button repeatedly to select the time delay.
The "stand by" indication will flash.
3. Press the OTR Button repeatedly to select the desired recording duration.
• After selecting time delay for the OTR recording start in step 2, the OTR Button must be pressed within 8 seconds to select the OTR recording duration otherwise the selected delay will be cancelled.

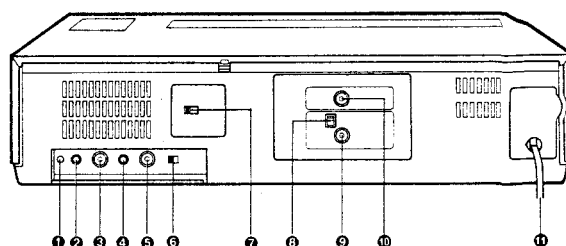
- 20 OTR Button**
Automatic recording for 30, 60, 90 or 120 minutes is possible by pushing this button.
- 21 Tuner Set-up Controls**
Used to tune to any broadcast channel in your area.
- 22 Channel Selection Up and Down Buttons**
Push the desired channel selector buttons to select the channel you wish to view or record.
- 23 Input Signal Selector**
For selecting the input signal to be recorded.
- CAMERA:** To make a recording with using a video camera which is connected to the Video Input Jack and the Audio Input Jack.
- TUNER:** To record a TV programme with the built-in tuner of the VTR.

Multi Function Display



- 24 Tape Speed Indicator**
- 25 Camera Input Indicator**
- 26 Memory Indicator**
- 27 Tape Counter**
- 28 Channel Display**
- 29 Timer Recording Display**
- 30 STAND BY Indicator**
- 31 Tape Running Display**
- 32 Playback Indicator**
- 33 Recording Indicator**
- 34 Cassette-in Indicator**

REAR



- 1 Camera Remote Control Socket**
For connecting the remote control cable of a video camera (optional).
- 2 Audio Input Socket**
For connecting an audio cable of a video camera, a component audio system or another VTR.
- 3 Video Input Socket**
For connecting the video cable of a video camera or an output video signal of another VTR.
- 4 Audio Output Socket**
For connecting an audio cable of a TV monitor, a component audio system, or another VTR.
- 5 Video Output Socket**
For connection to a TV monitor or another Video Cassette Recorder. Not used with an ordinary TV.

⑥ Colour Mode/Test Signal Switch

In the TEST position, a black-and-white test pattern is generated, which allows easy tuning of your TV set to the video playback channel of the VTR. For normal recording and playback operation, this switch must be in the middle AUTO position.

Only if the colour reception of a station is particularly weak, setting this switch to the COLOUR position can improve the recording quality.

⑦ Bleep On/Off Switch

⑧ RF Signal Level Switch (NV-730E/B)

Used to attenuate the reception of the VHF and/or UHF antenna signals.

If the reception is normal, set to "HIGH". If the signal strength is high and a stripped pattern appears at the top of the picture on TV, set to "LOW".

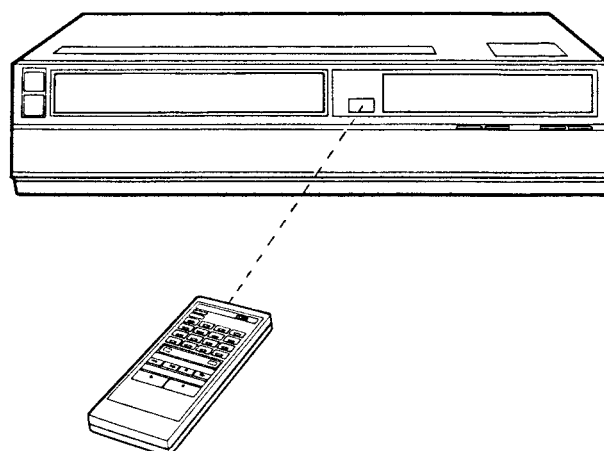
⑨ RF Input Socket

Connect the external aerial, which is now connected to the TV set, to this socket.

⑩ VTR RF Output Socket

For connection to the antenna terminal (COAXIAL type) of TV with the DIN-DIN Coaxial Cable supplied with the unit.

⑪ AC Mains Cord



① Remote On/Off Switch

② VTR On/Off Button

③ Rec Buttons

To start recording, press the two buttons simultaneously.

④ Rewind/Review Button

When this button is kept depressed during playback, the VTR changes over to the Review playback mode.

⑤ Fast Forward/Cue Button

When this button is kept depressed during playback, the VTR changes over to the Cue playback mode.

⑥ Play Button

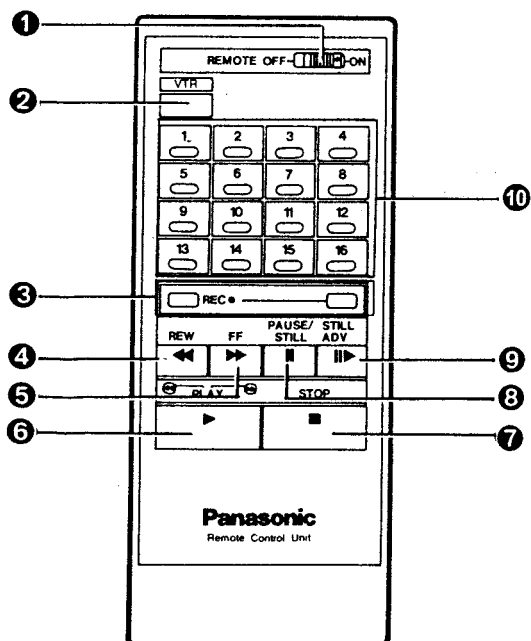
⑦ Stop Button

⑧ Pause/Still Button

⑨ Still Adv Button

⑩ Channel Selector Buttons

INFRARED REMOTE CONTROLLER



Note:

- Infrared beam should be transmitted directly to the VTR.
- Direct sunlight may interfere with the beam.
- The light sensing angle of the infrared reception window in the VTR is about 60°.
- The unit should be used within a range of about 7 meters from the front to the VTR.

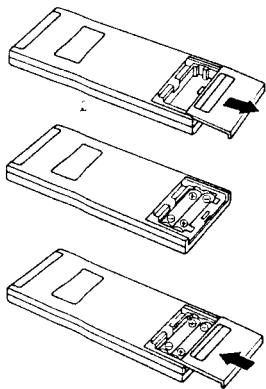
Power Source of Infra-red Remote Controller

- The infra-red Remote Controller is powered by two IEC "R03" size batteries. The life of the batteries is about one year, however, it depends on the frequency of use. Inspect and if necessary, replace the batteries once a year.

BATTERY REPLACEMENT CAUTION

- Load the new batteries with their polarities ($\oplus$ and $\ominus$) aligned correctly.
- Do not heat, disassemble or short-circuit the old batteries.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together. (Also never use an alkaline battery with a manganese battery.)

Load the batteries as follows:



1. Remove the Battery Compartment lid.
2. Place two batteries in the Battery Compartment as indicated inside the Battery compartment.
3. Replace the lid.

SECTION 2

ADJUSTMENT PROCEDURE

2-1. MECHANICAL ADJUSTMENT PROCEDURES

The model NV-730 uses the D-1 Mechanical Chassis. Please refer to the Service Manual D-1 Chassis (Order No. VRD-8310-490), except the confirmation and adjustment as shown below.

2-1-1. CONFIRMATION OF TAKE-UP TORQUE

2-1-2. ADJUSTMENT OF FG HEAD GAP

2-1-3. ADJUSTMENT OF THRUST GAP

2-1-1. CONFIRMATION OF TAKE-UP TORQUE

* Equipment Required:

Dial Gauge (VFK0133)

Adaptor for Gauge (VFK0134)

* Specification:

PLAY mode 130 ~ 180 g-cm

FF mode more than 400 g-cm

REW mode more than 400 g-cm

1. Remove the cassette compartment. Do not disconnect the connection cable from the Front Loading Motor.
2. Insert a cassette tape and attach the adaptor to the torque gauge.
3. Set a torque gauge to the Take-up Reel Table, and then push the PLAY button and read a torque gauge. Also perform for FF mode by pushing the FF button.
4. Set a torque gauge to the supply Reel Table, and push the REW button and read a torque gauge.

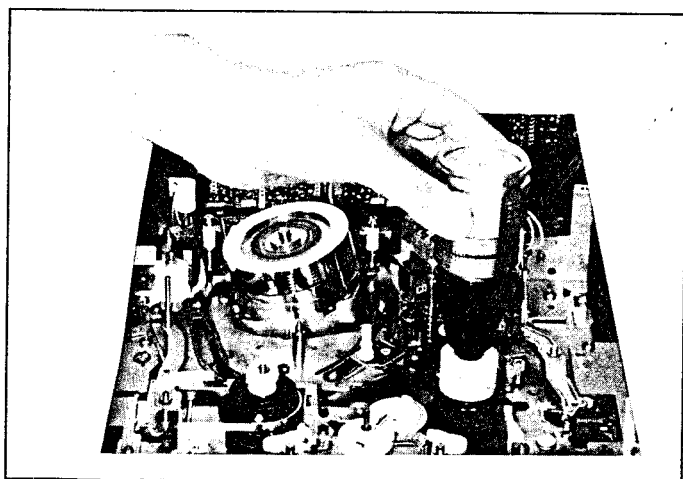


Fig. 1

Note:

While measuring, the weight of torque gauge should not rest on reel table.

2-1-2. ADJUSTMENT OF THE FG GAP

* Equipment Required:

Fine Adjustment Screwdriver (VFK0136)

* Specification: 0.16 ± 0.04 mm

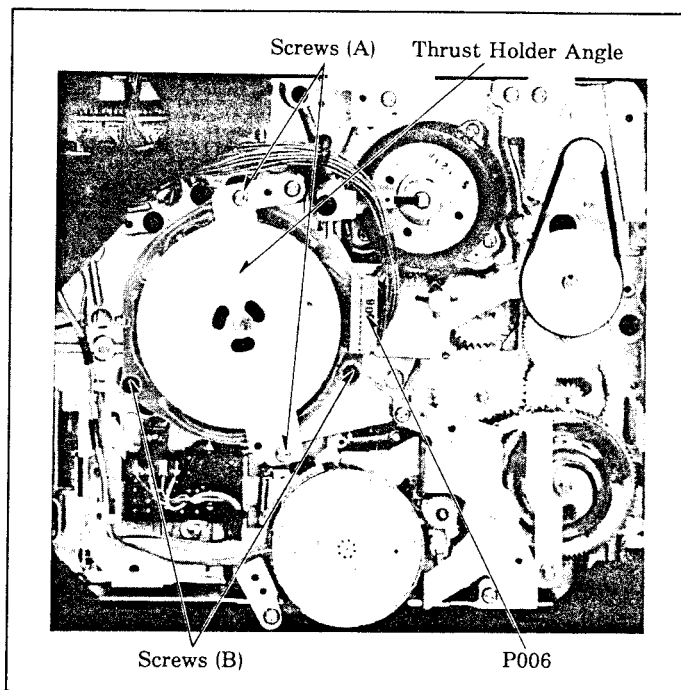


Fig. 2

1. Remove 2 screws (A) and thrust holder unit, then remove the P006 connector.
2. Remove 2 screws (B), then remove the stator unit.

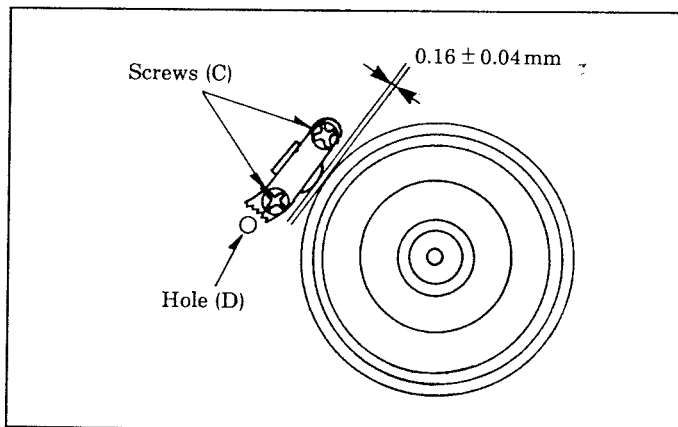


Fig. 3 Adjustment of F.G. Head Gap

3. Slightly loosen the screws (C) and set the fine adjustment screwdriver in the hole (D).

Note:

1. In stead of this method, the cover page of this volume can be alternative because the thickness is approx. 0.17 mm.
2. Do not touch the circumferential surface of rotor with any tool, and keep any magnetizable material away from the rotor magnet.

2-1-3. ADJUSTMENT OF THRUST GAP

*** Equipment Required:**

Reel Table Height Gauge (VFK0190)

*** Specification:** 0.05 ~ 0.10 mm

1. Remove the scraper of the height gauge, and install the screw of the height gauge.
2. Place the height gauge on the thrust holder angle, and set the gauge to zero "0".
3. If the gap is out of specification, then adjust the thrust boss by turning it clockwise or counterclockwise.

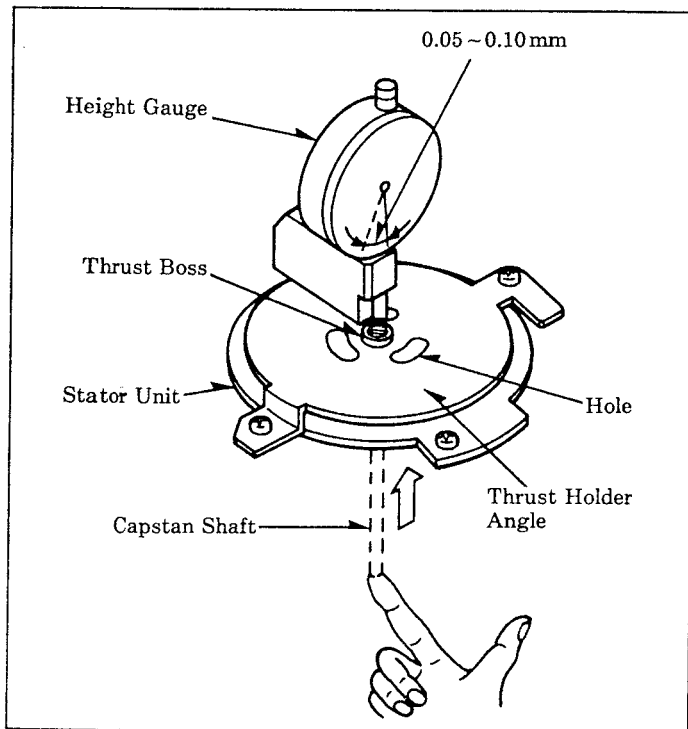


Fig. 4

2-2. DISASSEMBLY METHOD

2-2-1. DISASSEMBLY FLOWCHART

This flowchart indicated disassembly items of the cabinet parts and P.C. Boards in order to find the item(s) necessary for servicing.

When reassembling, perform the step(s) in the reverse order.

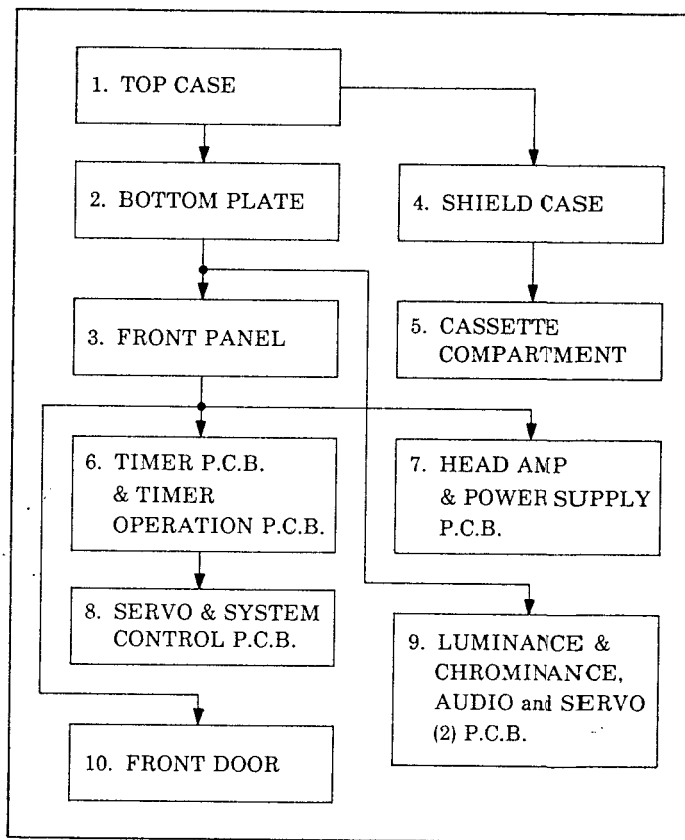


Fig. 1

2-2-2. DETAILED DISASSEMBLY METHOD

1. Removal of Top Case

Unscrew 4 screws (A). Then carefully lift the rear of the case to remove it.

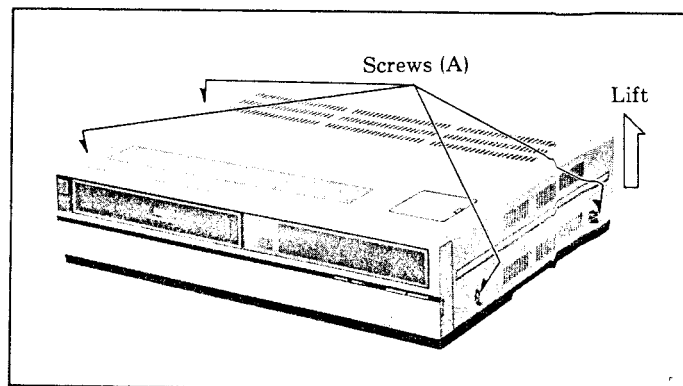


Fig. 2

2. Removal of Bottom Plate

Place the deck up side down, so the bottom side face is upward. Then unscrew 9 screws (B) to remove it.

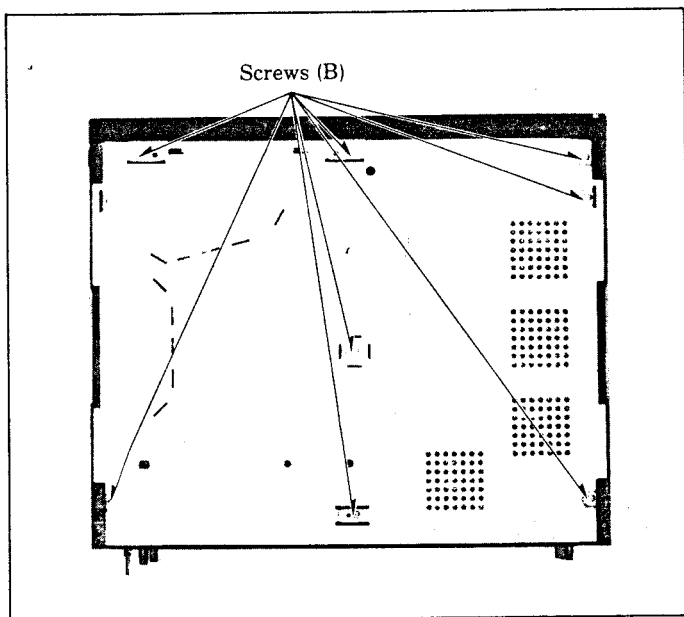


Fig. 3

3. Removal of Front Panel

Open the Operation Door.

Remove 3 screws (C) and unlock the 5 locking portions (D). Then hold the top portion of the panel and turn it toward the front of the deck to remove it.

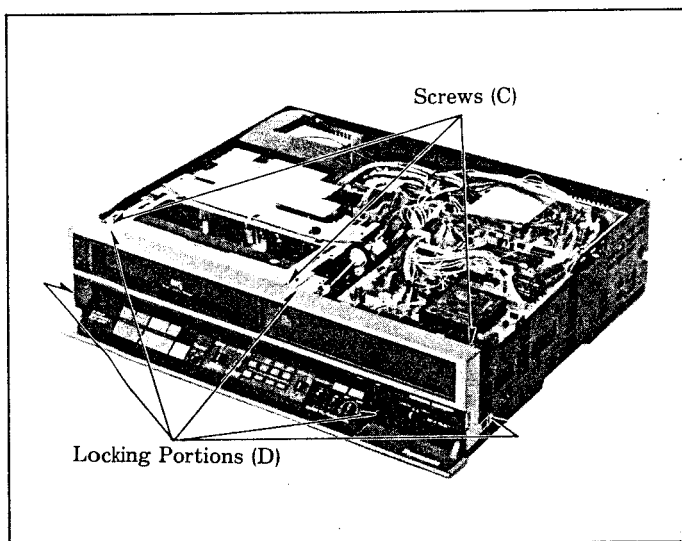


Fig. 4

4. Removal of Shield Plate

Loosen 5 screws (E) and remove the Shield Plate.

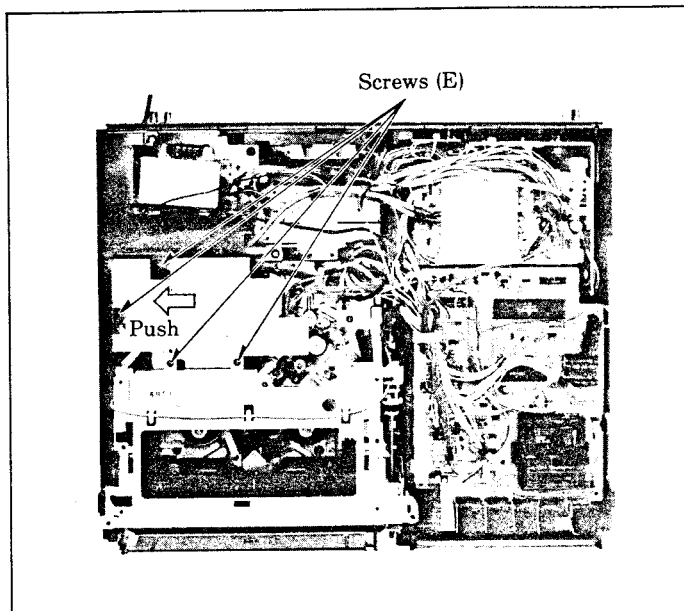


Fig. 5

5. Removal of Cassette Compartment

Disconnect the connector P1510 from the Front Loading Motor Connection P.C. Board, and unscrew 2 screws (F). Then carefully pull out the Cassette Compartment.

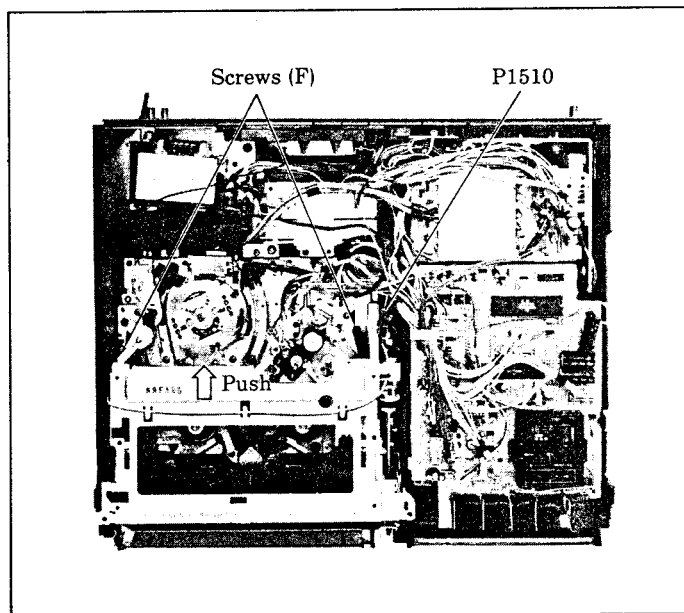


Fig. 6

6. Opening of the Timer P.C. Board and Timer Operation P.C. Board

- (1) Unscrew 2 screws (I), and remove the connector wires from the wire Hinge.
- (2) Unlock the 2 Locking Tabs (J) and pull the Timer Operation P.C. Board toward the front side of the deck till the 2 Locking portions (K) is released. Then open the Timer P.C. Board and Timer Operation P.C. Board.

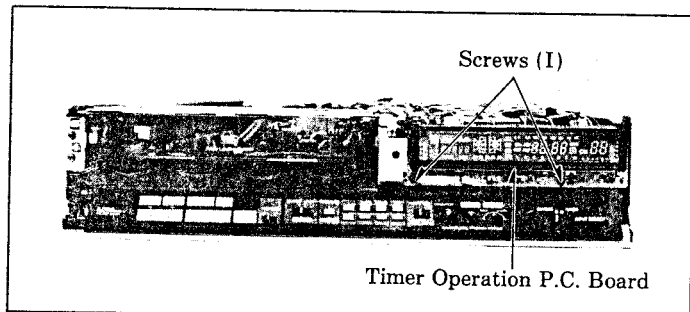


Fig. 7

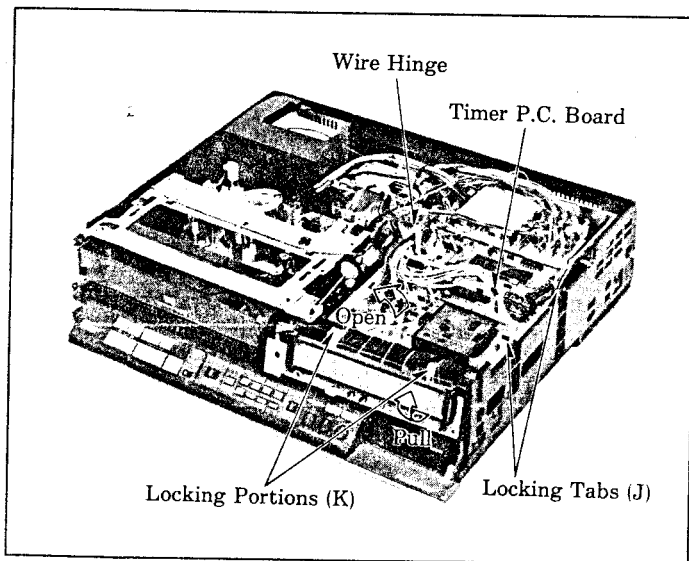


Fig. 8

7. Opening of the Head Amp & Power Supply P.C. Board

- (1) Unlock the 2 Locking Portions (L) and open the Head Amp & Power Supply P.C. Board.

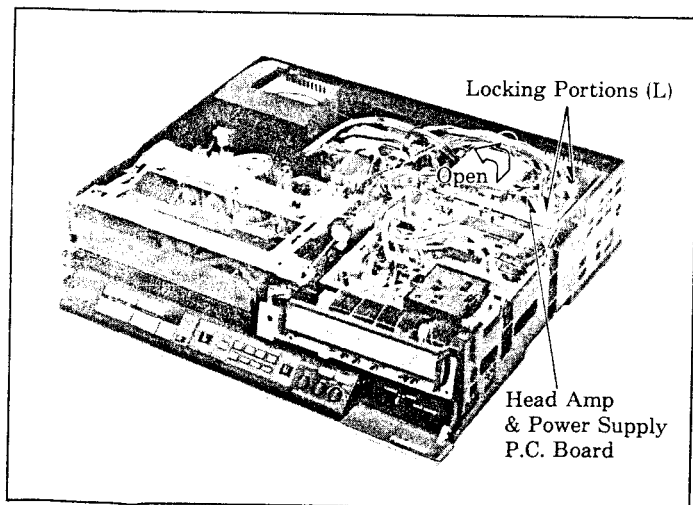


Fig. 9

8. Opening of the Servo & System Control P.C. Board

- (1) Open the Timer P.C. Board, Timer Operation P.C. Board and Head Amp & Power Supply P.C. Board.
- (2) Unscrew 5 screws (M), and unlock the Locking Tab (N). Then open the Servo & System Control P.C. Board.

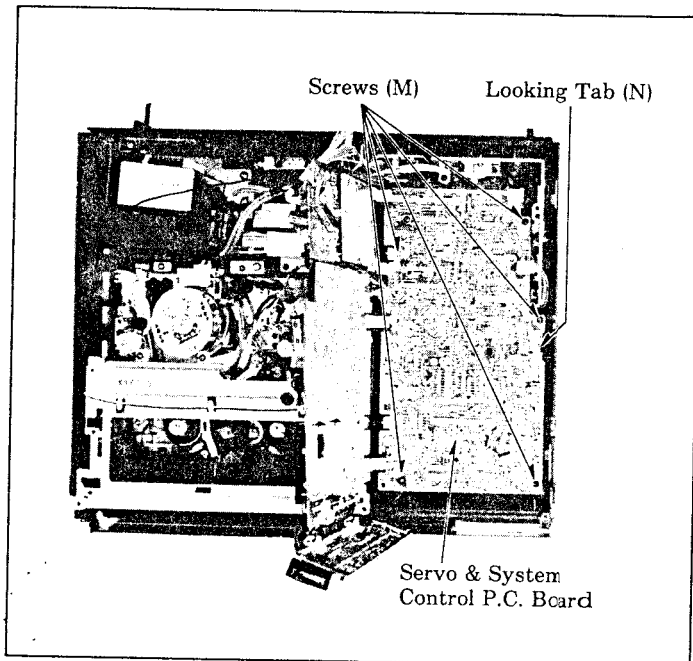


Fig. 10

9. Opening of the Bottom P.C. Board

- (1) Remove the Bottom Plate and earth jumper.
- (2) Unlock the 2 Locking Tabs (O) and remove the Front Door Support Angle.
- (3) Unscrew the 3 screws (P), and unlock the 2 Locking Tabs (Q). Then open the Bottom P.C. Board.

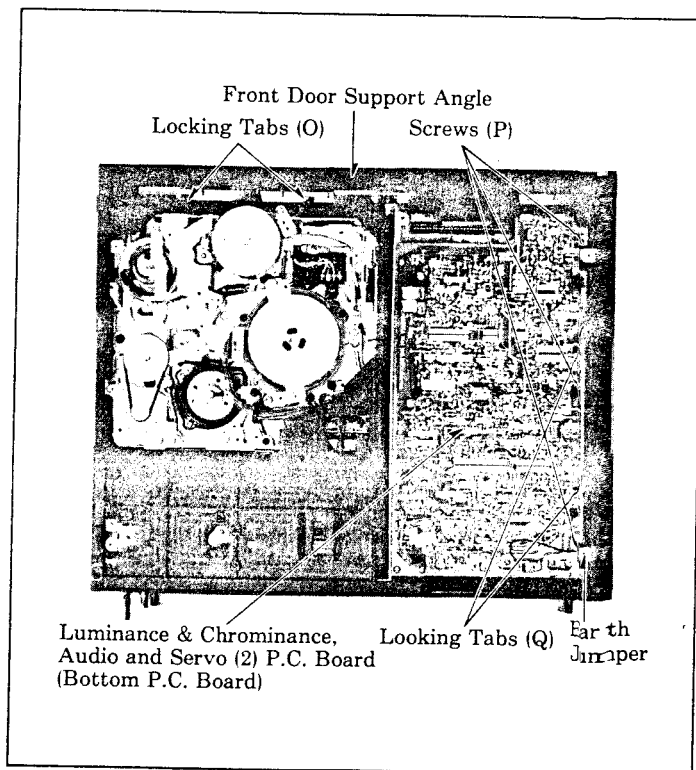


Fig. 11

10. Removal of the Front Door

- (1) Remove the Bottom Plate and Front Door Support Angle, and open the Bottom P.C. Board.
- (2) Disconnect the flexible jumper from the connector P6506 and earth jumper.
- (3) Unscrew the 4 screws (R), then remove the Front Door.

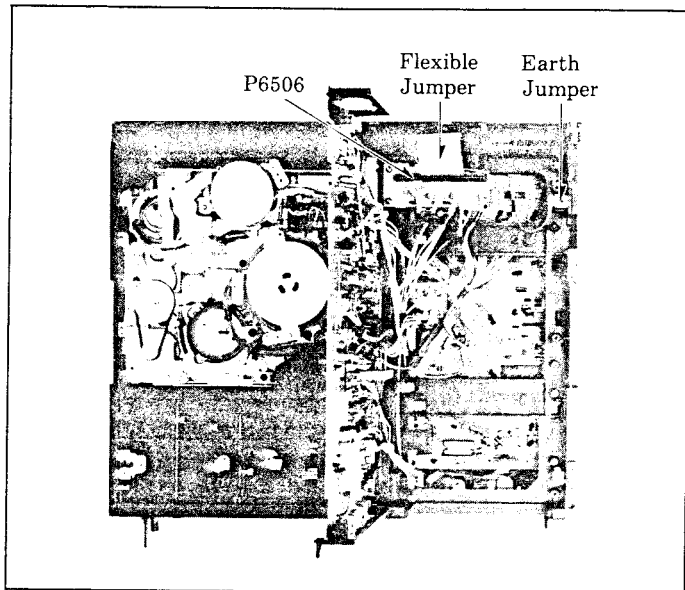


Fig. 12

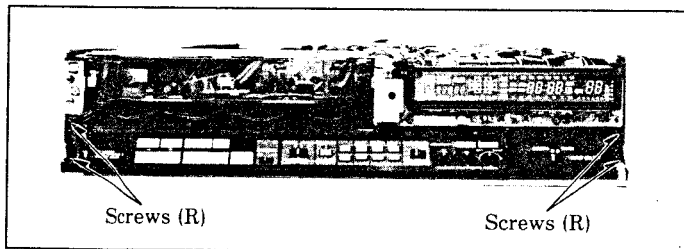


Fig. 13

Note:

When install the Front Door, adjust arrow on the oil dumper as shown below.

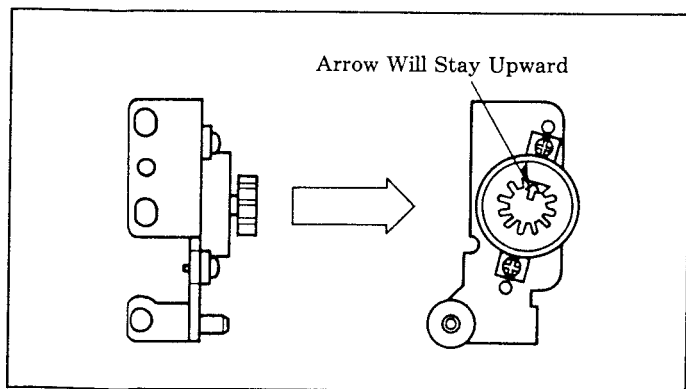


Fig. 14

2-2-3. DISASSEMBLY OF THE FRONT DOOR

1. Removal of the Keyboard Unit and Keyboard Case

- (1) Unscrew 5 screws (A), then take off the Keyboard unit and remove the locking plate.
- (2) Remove 3 volume knobs (B), and unlock the 2 locking portions (C).
- (3) Then, remove the Keyboard Case.

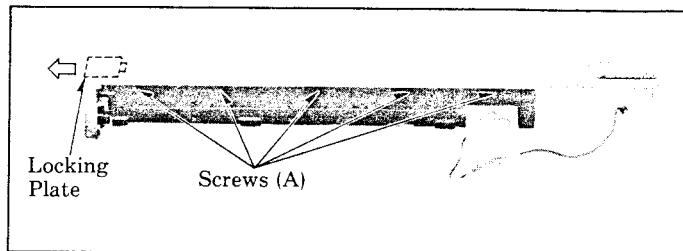


Fig. 15

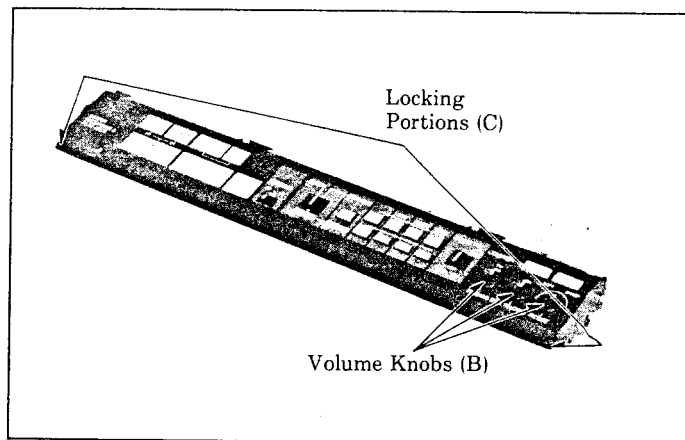


Fig. 16

2. Opening of the Keyboard P.C. Board

- (1) Disconnect the flexible jumper from P6801, and unscrew the screw (D). Then, remove the earth wire.
- (2) Unscrew the screw (E), and slide the P.C. Board. Then, remove the Keyboard P.C. Board.

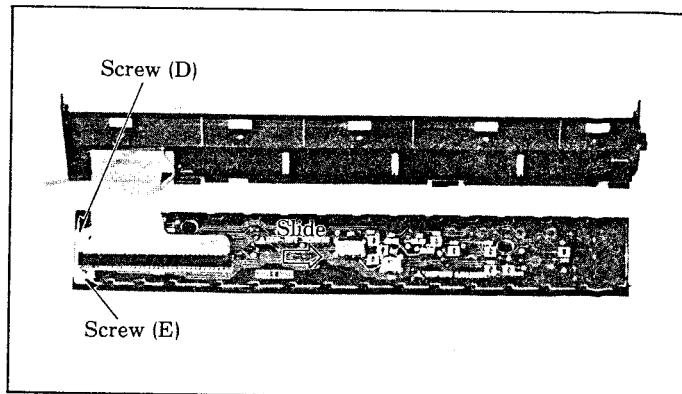


Fig. 17

2-2-4. REPLACEMENT PROCEDURE FOR UPPER CYLINDER

1. Removing of the Upper Cylinder Unit

Unscrew 2 screws (A), and unsolder the 4 read wires.
Then, remove the upper Cylinder Unit.

2. Reinstalling of the Upper Cylinder Unit

Reinstall the new Upper Cylinder Unit to meet the colour of the P.C. Board between Upper Cylinder Unit and Bottom Cylinder.

Resolder the 4 read wires and tighten 2 screws (A).

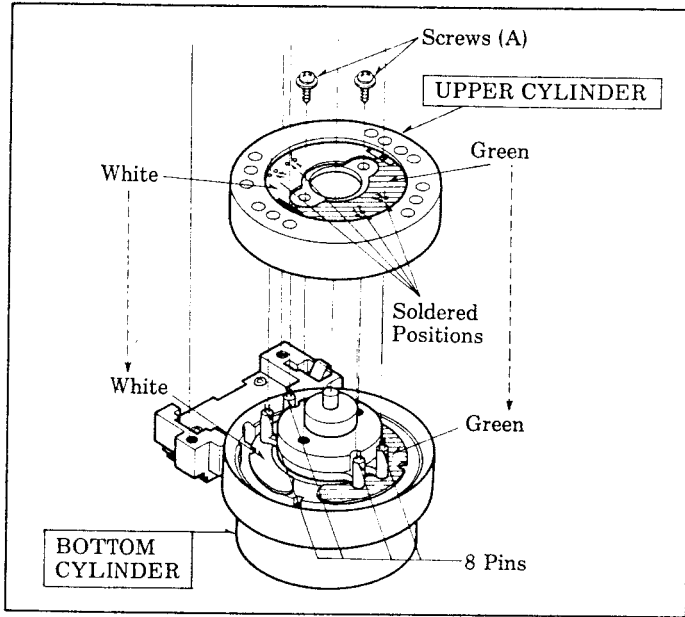


Fig. 18

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette recorder NV-730.

2-3-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
Voltage Range: 0.001 ~ 50 V
2. Dual-Trace Oscilloscope
Voltage Range: 0.005 ~ 50 V/div.
Frequency Range: DC ~ 10 MHz
Probes: 10:1 or 1:1
3. Frequency Counter
Frequency Range: 0 ~ 10 MHz
4. Signal Generator (Sinewave)
Frequency Range: 0 ~ 10 MHz
5. Video Sweep Generator
Frequency Range: 0 ~ 10 MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

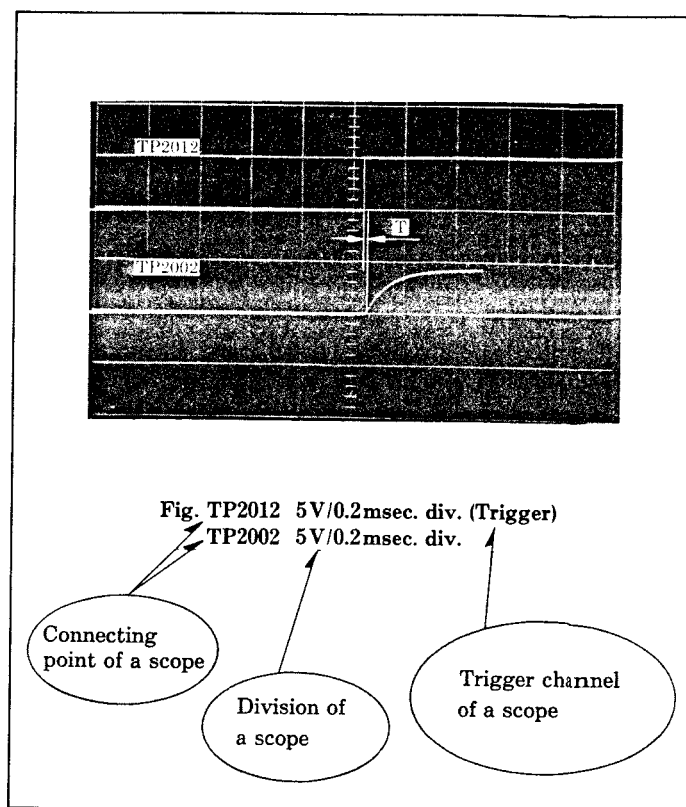


Fig. 2

2-3-2. HOW TO READ THE ADJUSTMENT PROCEDURES

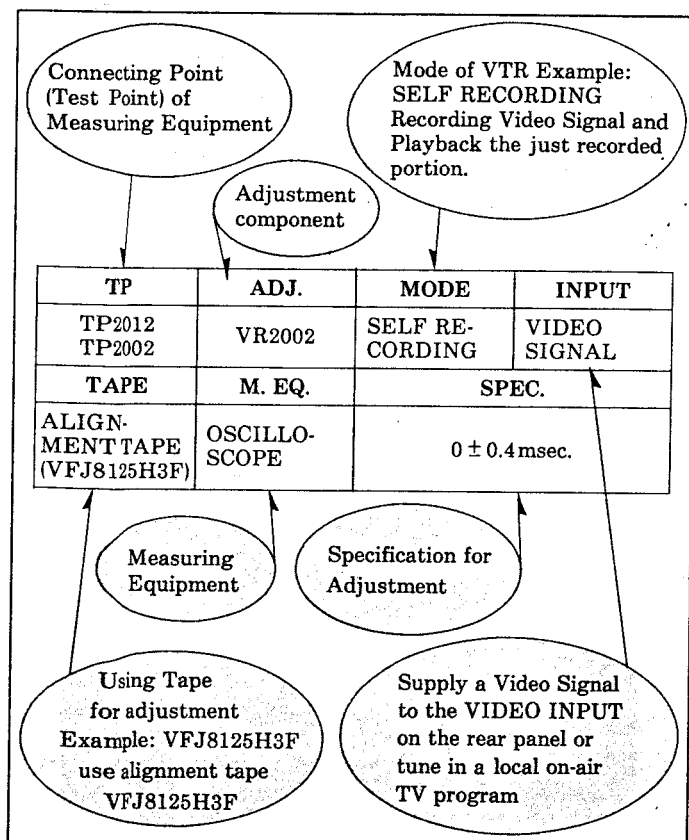


Fig. 1

SERVO SECTION

2-3-3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	M. EQ.	SPEC.	
ALIGN- MENT TAPE (VFJ8125H3F)	OSCILLO- SCOPE	7.0 ± 0.5 H	

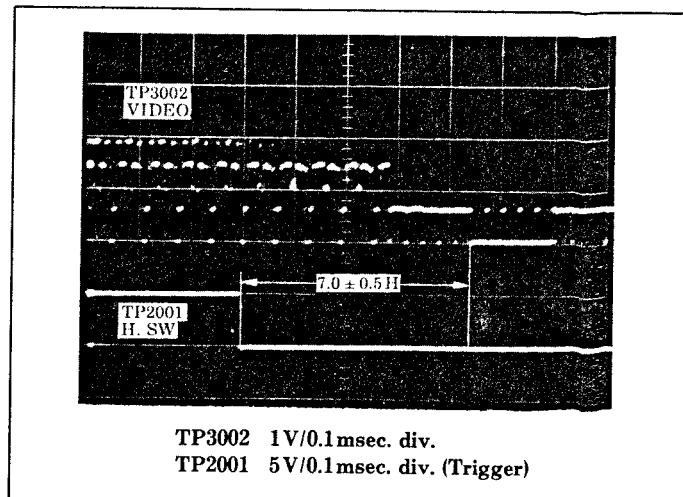


Fig. 3

2-3-4. TRACKING FIX ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2012 TP2002	VR2002	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE	$T=0 \pm 0.4 \text{ msec.}$	

1. TRACKING VR is center fix position.
2. Playback the just recorded portion.
3. Adjust VR2002 for $0 \pm 0.4 \text{ msec.}$ as shown below.

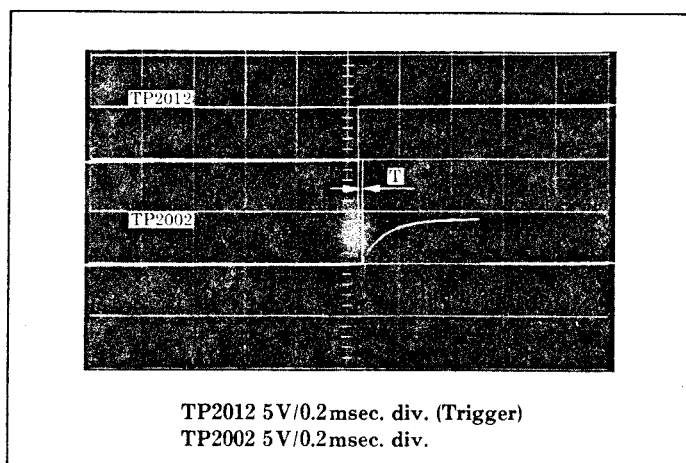


Fig. 4

2-3-5. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2010 VR2009	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	Monitor TV		

1. Playback the just recorded portion in SP mode and place the deck in STILL mode.
2. Adjust VR2010 so that the V-dancing does not appear on the TV Monitor screen.
3. Playback the just recorded portion in LP mode and place the deck in STILL mode.
4. Adjust VR2009 so that the V-dancing does not appear on the TV Monitor screen.

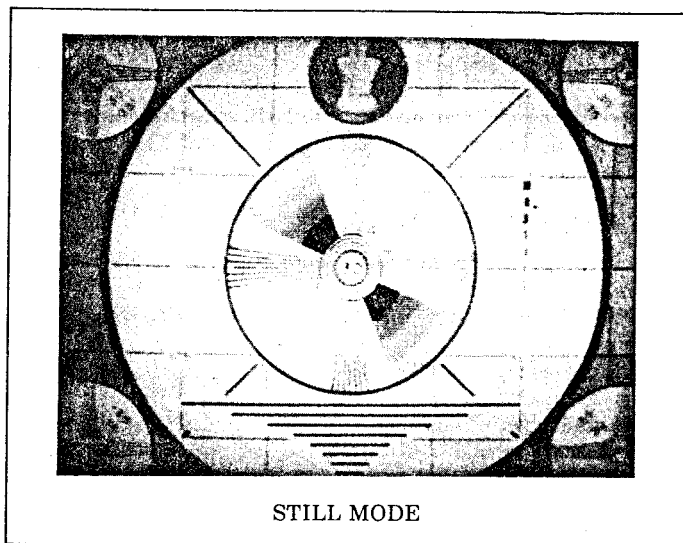


Fig. 5

2-3-6. FINE SLOW TRACKING FIX ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2011 VR2006	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	Monitor TV		

1. SLOW TRACKING VR is center position.
2. Playback the just recorded portion in SP mode.
3. Place the deck in STILL mode and connect a jumper wire between TP3021 and TP3022.
4. Adjust VR2011 so that the noise does not appear on the TV Monitor screen.
5. Playback the just recorded portion in LP mode.
6. Place the deck in STILL mode and connect a jumper wire between TP3021 and TP3022.
7. Adjust VR2006 so that the noise does not appear on the TV Monitor screen.

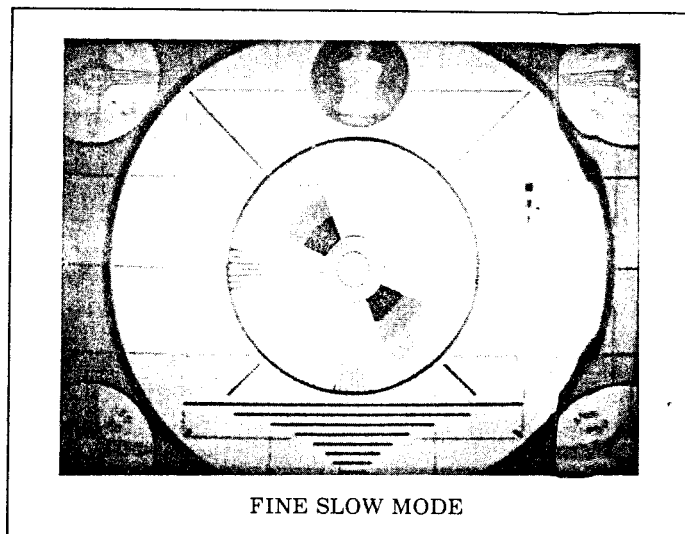


Fig. 6

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-3-7. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5007 (SP HOT) TP5008 (SP GND) TP5003 (LP HOT) TP5004 (LP GND)	VR3001 (SP)	REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	$28 \pm 2 \text{ mVp-p}$	

1. Set the SP/LP selector sw to SP mode.
2. Adjust VR3001 so that the Y-Level is $150 \pm 5 \text{ mVp-p}$.

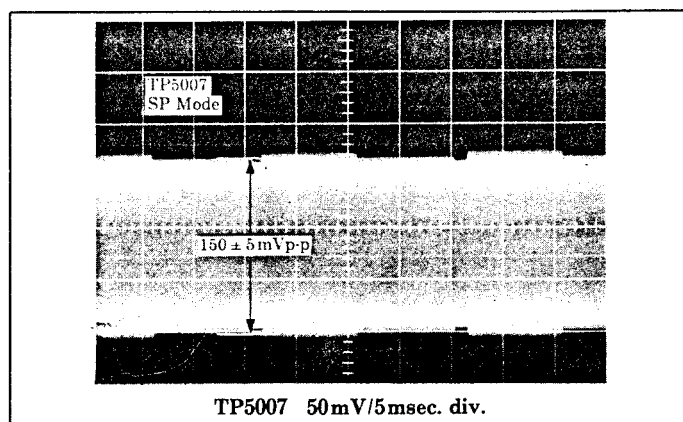


Fig. 7

3. Set the SP/LP selector sw to LP mode.
4. Confirm that the Y-Level is $100 \pm 20 \text{ mVp-p}$.

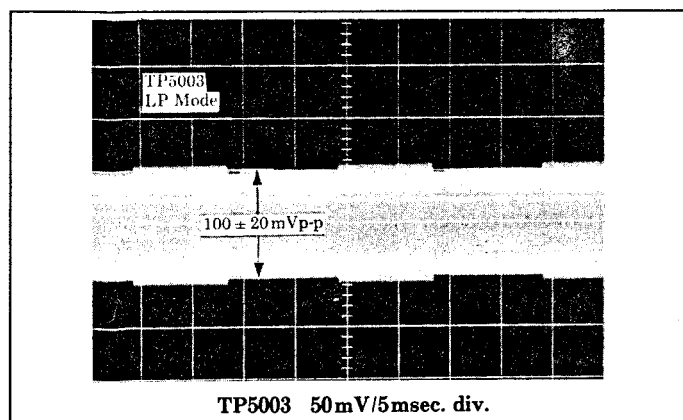


Fig. 8

2-3-8. CONFIRMATION OF CHROMINANCE RECORDING CURRENT

TP	ADJ.	MODE	INPUT
TP5007 (SP HOT) TP5008 (SP GND)		REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	$28 \pm 2 \text{ mVp-p}$	

1. Set the SP/LP selector sw to SP mode.
2. Connect a jumper wire between TP5014 and GND.

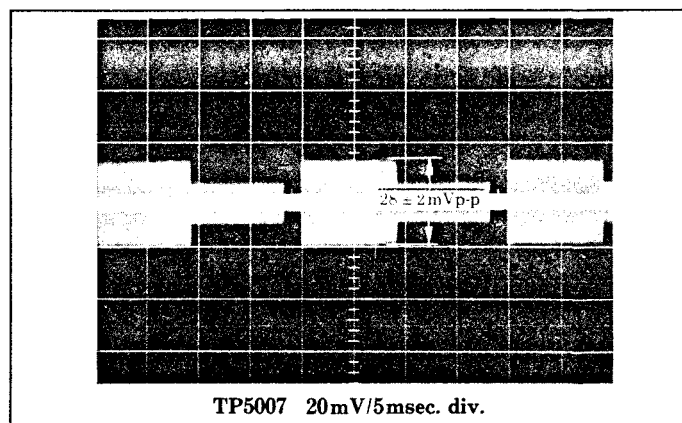


Fig. 9

2-3-9. CONFIRMATION OF VIDEO PLAYBACK LEVEL

TP	ADJ.	MODE	INPUT
TP3002		SELF RE-CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	$2.0 \pm 0.2 \text{ Vp-p}$ (Y-LEVEL) $1.1 \pm 0.2 \text{ Vp-p}$ (CYAN-LEVEL)	

1. Playback the just recorded portion in SP mode.
2. Confirm that the level is as shown below.
3. Playback the just recorded portion in LP mode.
4. Confirm that the level is same as in SP mode.

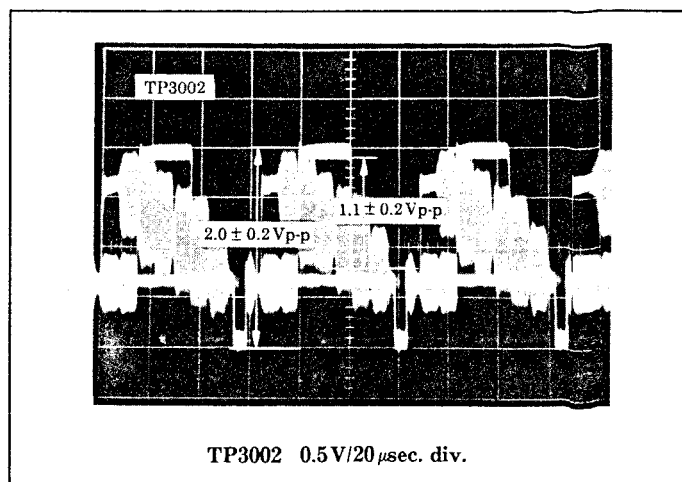


Fig. 10

2-3-10. HEAD AMP PEAK FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5001	VR5003 (SP), VR5004 (SP) C5045 (SP), C5046 (SP) VR5001 (LP), VR5002 (LP) C5043 (LP), C5044 (LP)	PLAY	VIDEO SWEEP TP5007 (SP), TP5010 (SP), TP5003 (LP), TP5009 (LP)
TAPE	M. EQ.	SPEC.	
EMPTY CASSETTE TAPE	VIF SWEEP/ OSCILLO- SCOPE	2MHz:4.6MHz=1:3 (SP) 2MHz:4.9MHz=1:3 (LP)	

1. Set the sweep generator output to 100mVp-p at no load and set the marker output at 2MHz, 4.6MHz and 4.9MHz.

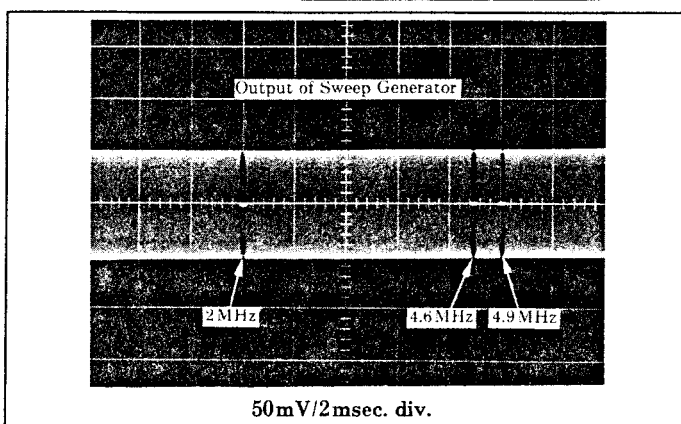


Fig. 11

2. Supply sweep generator output to the TP5007 and TP5010 through the 39kΩ resistors as shown below.

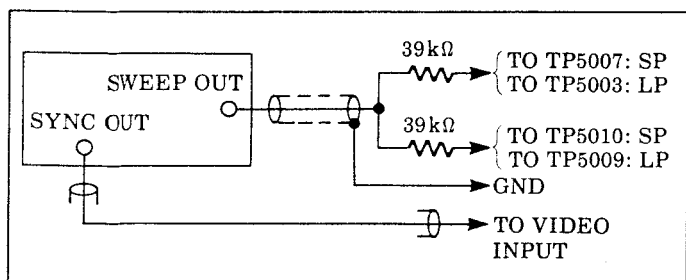


Fig. 12

3. Connect the oscilloscope to TP5001 through Filter Circuit as shown below.

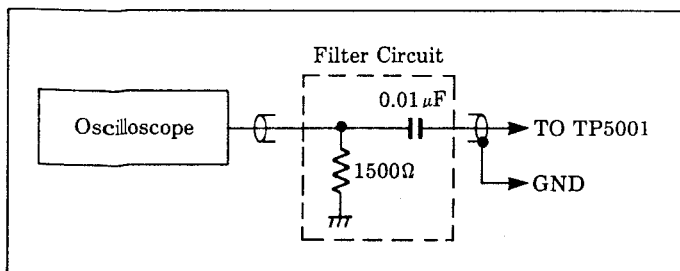


Fig. 13

4. Adjust VR5004 (Q-L) and VR5003 (Q-R) for the envelopes of both channels as shown below in SP PLAY mode.

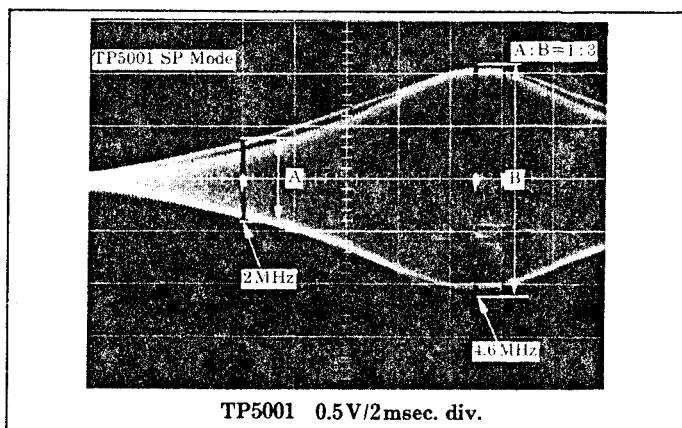


Fig. 14

5. Adjust C5046 (PEAK-L) and C5045 (PEAK-R) so that the peak points become 4.6MHz as shown below in SP PLAY mode.

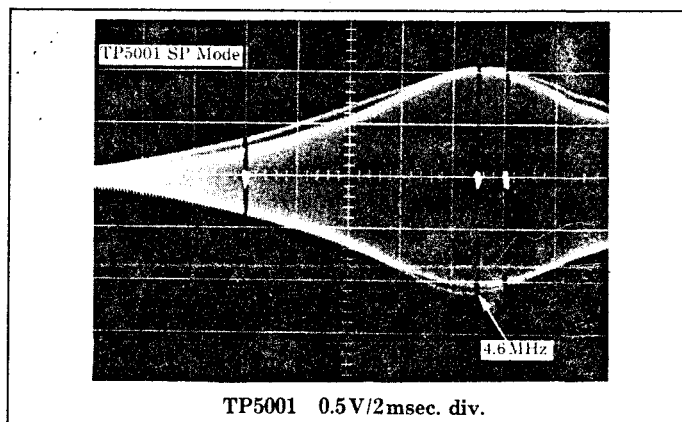


Fig. 15

6. Supply sweep generator output to the TP5003 and TP5009 through the 39kΩ resistors.
7. Connect the oscilloscope to TP5001 through Filter Circuit.
8. Connect the 1kΩ resistor between TP5011 and TP5012.
9. Adjust VR5001 (Q-L) and VR5002 (Q-R) for the envelopes of both channels as shown below in LP PLAY mode.

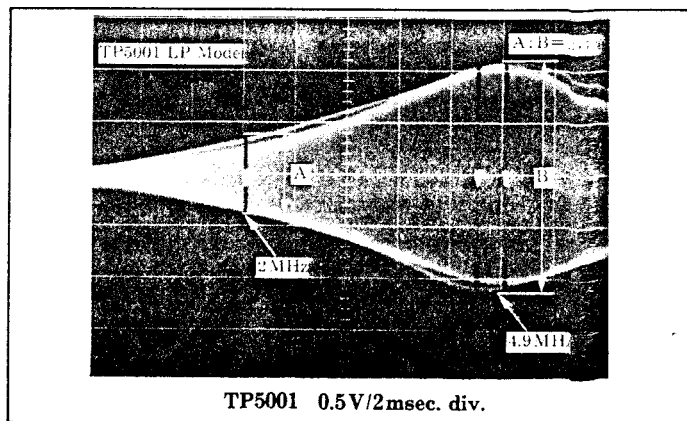


Fig. 16

- Adjust C5043 (PEAK-L) and C5044 (PEAK-R) so that the peak points becomes 4.9MHz as shown below in LP PLAY mode.

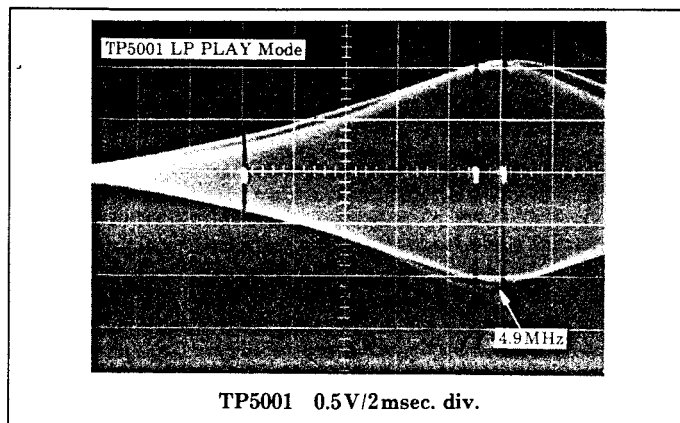


Fig. 17

2-3-11. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR5003 (SP), VR5004 (SP), VR5001 (LP), VR5002 (LP)	SELF RE- CORDING	VIDEO SWEEP
TAPE	M. EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ OSCILLO- SCOPE		

- Set the sweep generator output as shown below.

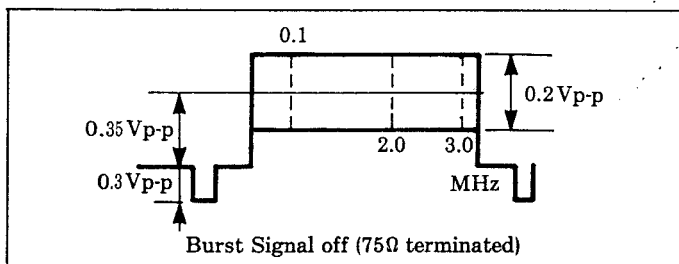


Fig. 18

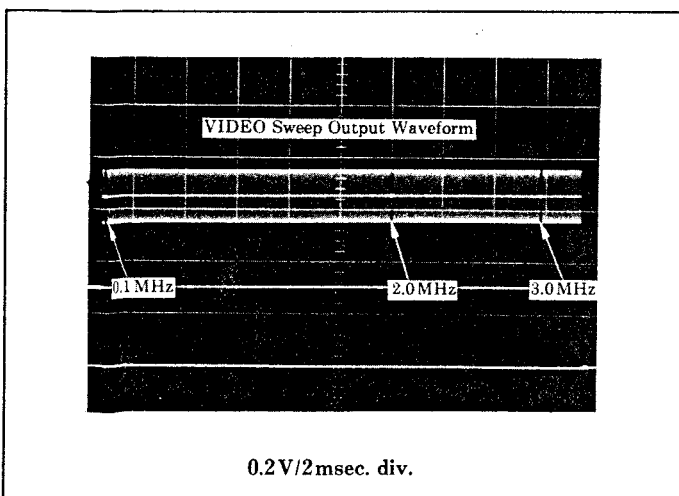


Fig. 19

- PICTURE VR is center position.
- Playback the just recorded portion in SP mode.
- Adjust VR5004 and VR5003 so that the waveforms become as shown below.

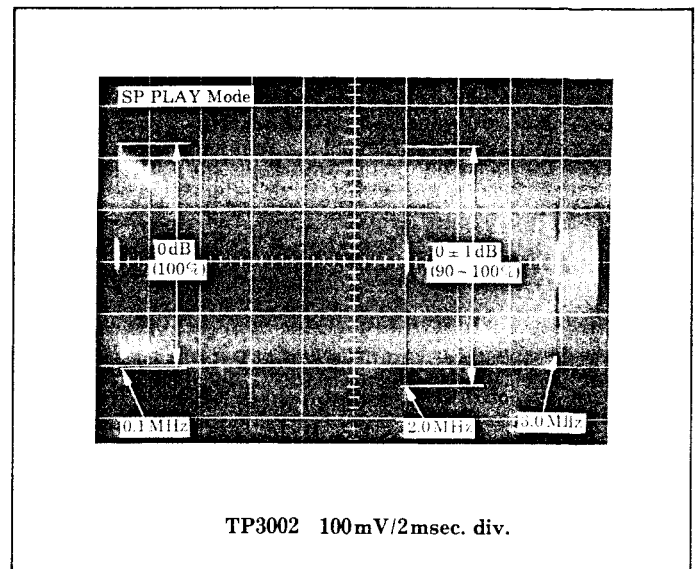


Fig. 20

- Playback the just recorded portion in LP mode.
- Adjust VR5001 and VR5002 so that the waveforms become as shown below.

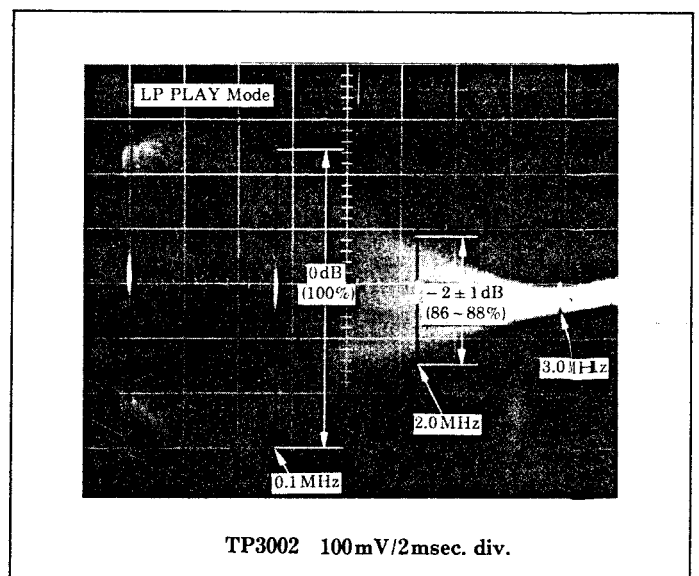


Fig. 21

2-3-12. JUMP VCO FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3020	VR3010	REC • PLAY (LP)	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	FREQUEN- CY COUNTER	33.0 ± 0.1 kHz	

- Set the SP/LP selector sw to LP mode.
- Do not supply any video signal and place the deck in REC • PLAY mode.
- Connect the FREQUENCY COUNTER as shown below.

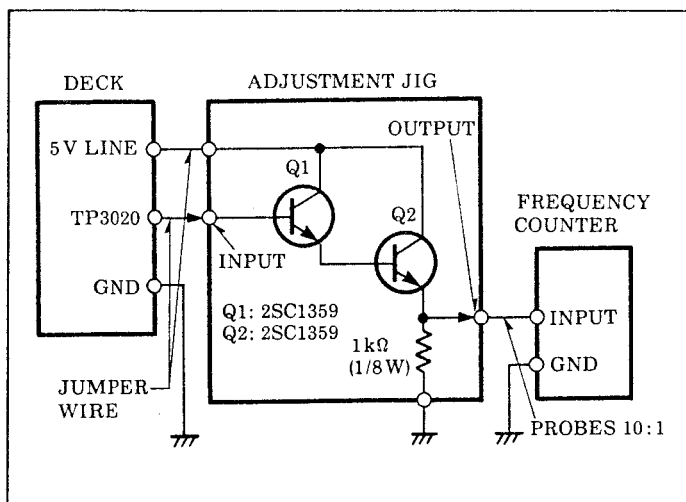


Fig. 22

- Adjust VR3010 so that the indication of the FREQUENCY COUNTER becomes $33.0 \pm 0.3 \text{ kHz}$.

2-3-13. JUMP DEMODULATOR TUNING CIRCUIT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	C3023	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

- Playback the just recorded portion in LP mode and place the deck in CUE (or REV) mode.
- Adjust C3023 so that the delayed video level is same as the through video level as shown in Fig. 24.

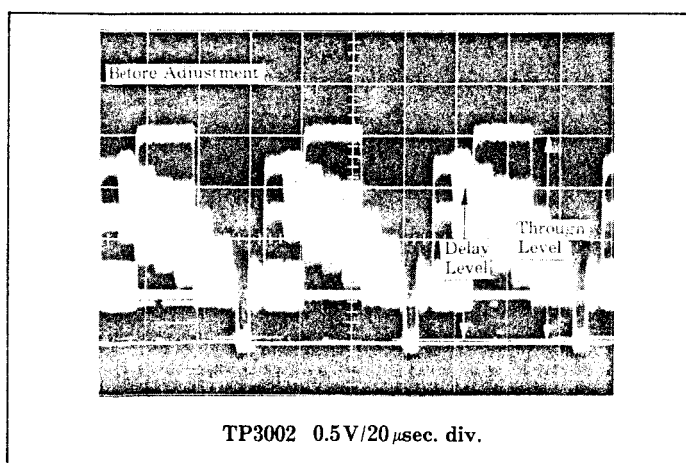


Fig. 23

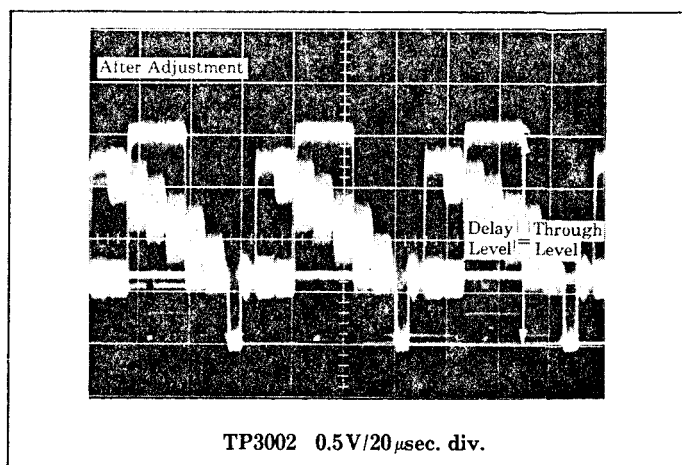


Fig. 24

2-3-14. JUMP DELAY SIGNAL LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3009	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

Note:

This adjustment must be done after the completion of the JUMP DEMODULATOR TUNING CIRCUIT ADJUSTMENT.

- Playback the just recorded portion in LP mode and place the deck in CUE (or REV) mode.
- Adjust VR3009 so that the delayed video level is as same as the through video level as shown in Fig. 26.
- Confirm the FLICKER does not appear on the TV Monitor screen.

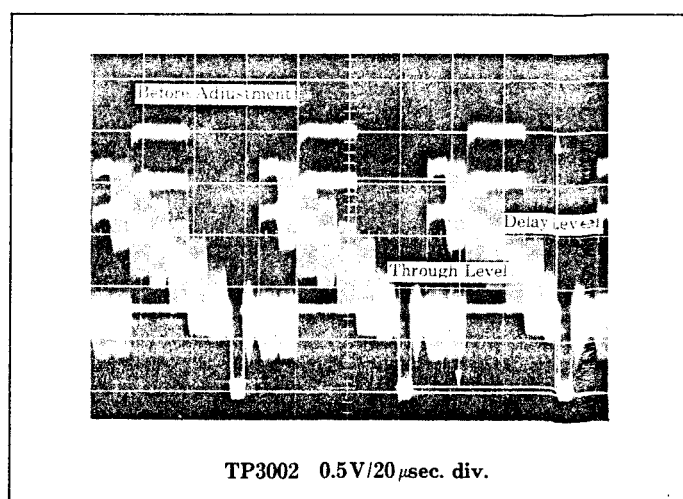
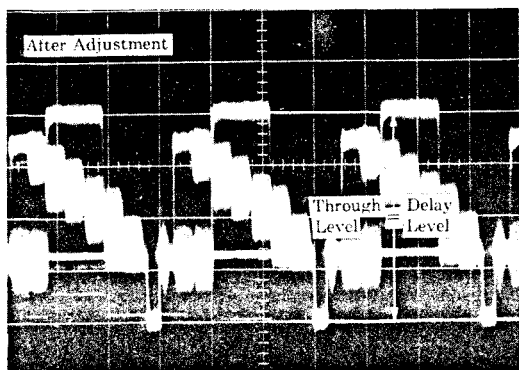
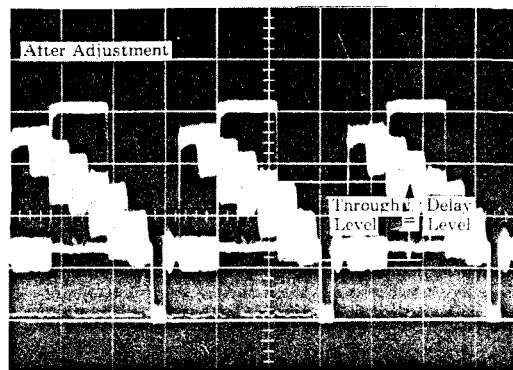


Fig. 25



TP3002 0.5 V/20 μ sec. div.

Fig. 26



TP3002 0.5 V/20 μ sec. div.

Fig. 28

2-3-15. CHROMA DELAY SIGNAL LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR8001	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

1. Play back the just recorded portion in LP mode and place the deck in STILL mode.
2. Adjust VR8001 so that the delayed chroma level becomes minimum as shown in Fig. 28.



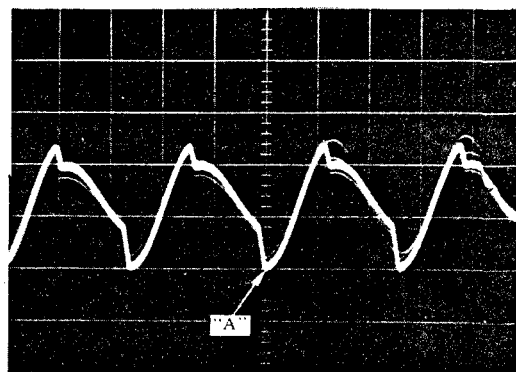
TP3002 0.5 V/20 μ sec. div.

Fig. 27

2-3-16. SECAM KILLER ADJUSTMENT (NV-730EG only)

TP	ADJ.	MODE	INPUT
TP8008	L8015	REC • PLAY	SECAM SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

1. Adjust L8015 so that the point "A" becomes minimum peak on the waveform as shown below.



TP8008 2 V/50 μ sec. div.

Fig. 29

AUDIO SECTION

2-3-17. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (+) TP4003 (-)	VR4002	REC • PLAY	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	4.1 ± 0.1 mVrms (SP) 3.5 ± 0.2 mVrms (IP)	

1. Set the SP/LP selector sw to SP mode.
2. Adjust VR4002 so that the indication of the V.T.V.M. is 4.1 ± 0.1 mVrms.

- Set the SP/LP selector sw to LP mode.
- Confirm that the indication of the V.T.V.M. is $3.5 \pm 0.2 \text{ mVrms}$.

2-3-18. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4001	VR4001	SELF RE-CORDING	1kHz 0dB AUDIO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	SIGNAL GENERATOR/V.T.V.M.	E-E LEVEL = $-8 \pm 1.5 \text{ dB}$ P.B LEVEL = E-E LEVEL $\pm 0.5 \text{ dB}$	

- Play back the just recorded portion in SP mode.
- Adjust VR4001 so that the playback level is less than $\pm 0.5 \text{ dB}$, compared with E-E LEVEL.

SYSTEM CONTROL SECTION

2-3-19. REEL MOTOR CURRENT CONTROL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6005 (+) TP6002 (-)	VR6002	REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
		MARKING	VOLTAGE (mV)
BLANK TAPE	D.V.M.	GREEN	200 ~ 210
		BLACK	190 ~ 200
		ORANGE	180 ~ 190
		RED	170 ~ 180
		BLUE	160 ~ 170

- Set the SP/LP selector sw to SP mode and place the deck in REC • PLAY mode.
- Adjust VR6002 so that the indication of D.V.M. meets specification.

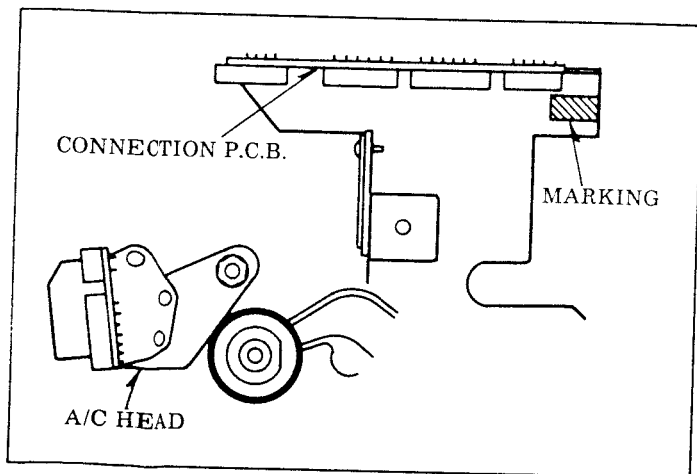


Fig. 30

TIMER SECTION

2-3-20. TIMER RESET (IC7501) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	R7509		
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE/ DC POWER SUPPLY	7.8 msec. (Adjustment) 62 msec. (Confirmation)	

Note:

Disconnect the P7505.
Do not connect the AC power plug.

- Set the voltage of the DC POWER SUPPLY for $3.7 \pm 0.05 \text{ V}$. Then connect the DC POWER SUPPLY to TP7504 (+) and GND (-).
- Adjust R7509 for 7.8 msec as shown below.

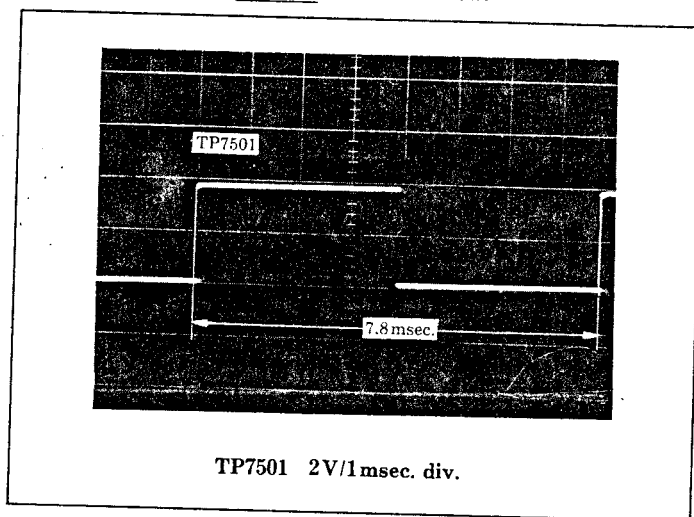


Fig. 31

- Set the voltage of the DC POWER SUPPLY for $3.58 \pm 0.05 \text{ V}$. Then connect the DC POWER SUPPLY to TP7504 (+) and TP7501 (-).
- Confirm that the time is as shown below.

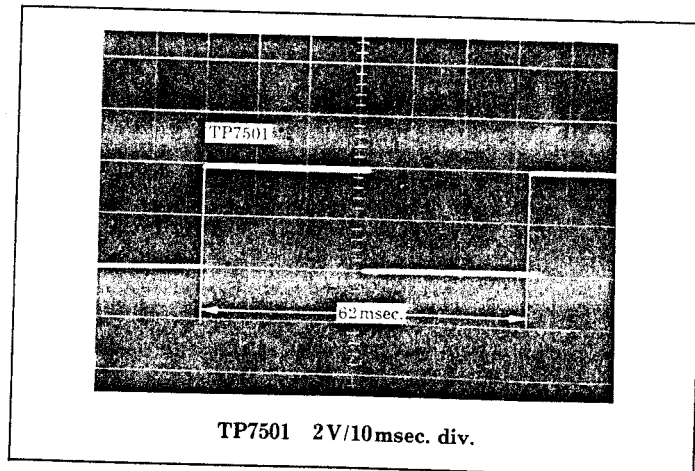


Fig. 32

2-3-21. TIMER RESET (IC7503) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	R7533		
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE DC POWER SUPPLY	62msec. (Adjustment) 7.8msec. (Confirmation)	

Note:

Disconnect the P7505.

Do not connect the AC power plug.

This adjustment must be done after the completion of the TIMER RESET (IC7501) ADJUSTMENT.

1. Set the voltage of the DC POWER SUPPLY for 4.4 ± 0.05 V. Then connect the DC POWER SUPPLY to TP7505 (+) and GND (-).
2. Connect a jumper wire between TP7504 and TP7505.
3. Adjust R7533 for 62msec. as shown below.

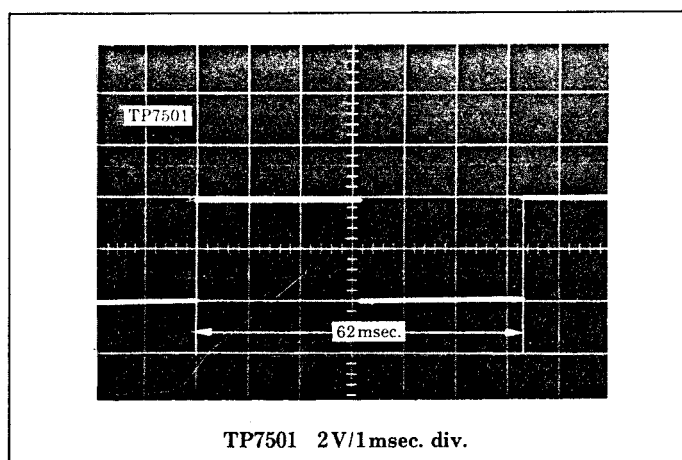


Fig. 33

4. Set the voltage of the DC POWER SUPPLY for 4.6 ± 0.05 V. Then connect the DC POWER SUPPLY to TP7505 (+) and GND (-).
5. Confirm that the time is as shown below.

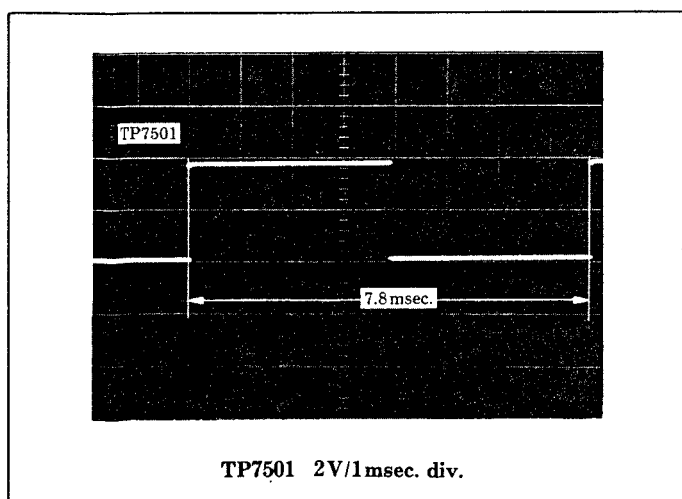


Fig. 34

2-3-22. TIMER CLOCK (IC7501) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	C7502		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER DC POWER SUPPLY	128 ± 0.00168 Hz	

Note:

Disconnect the P7505.

Do not connect the AC power plug.

This adjustment must be done after the completion of the TIMER RESET (IC7501) ADJUSTMENT and TIMER RESET (IC7503) ADJUSTMENT.

1. Set the voltage of the DC POWER SUPPLY for 5.8 ± 0.1 V. Then connect the DC POWER SUPPLY to P7502-(7)(+) and GND (-).
2. Adjust C7502 so that the indication of the FREQUENCY COUNTER becomes 128 ± 0.00168 Hz.

2-3-23. TIMER CLOCK (IC7506) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7509	R7515		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER DC POWER SUPPLY	18.5 ~ 20.8 kHz	

Note:

Disconnect the P7505.

Do not connect the AC power plug.

This adjustment must be done after the completion of the TIMER RESET (IC7501) ADJUSTMENT and TIMER RESET (IC7503) ADJUSTMENT.

1. Connect a 3.3k Ω resistor between TP7504 and TP7509.
2. Set the voltage of the DC POWER SUPPLY for 5.8 ± 0.1 V then connect the DC POWER SUPPLY to BP7501(8) (+) and GND (-).
3. Adjust R7515 so that the indication of the FREQUENCY COUNTER becomes 18.5 ~ 20.8 kHz.

2-3-24. TIMER MUTING FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7508	R7595		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER/ DC POWER SUPPLY	15.625 ± 50 (Hz)	

Note:

Disconnect the P7505.

Do not connect the AC power plug.

1. Set the voltage of the DC POWER SUPPLY for 12.0 ± 0.3 V. Then connect the DC POWER SUPPLY to P7501 (11) (+) and TP7507 (-).
2. Connect the FREQUENCY COUNTER as shown below.

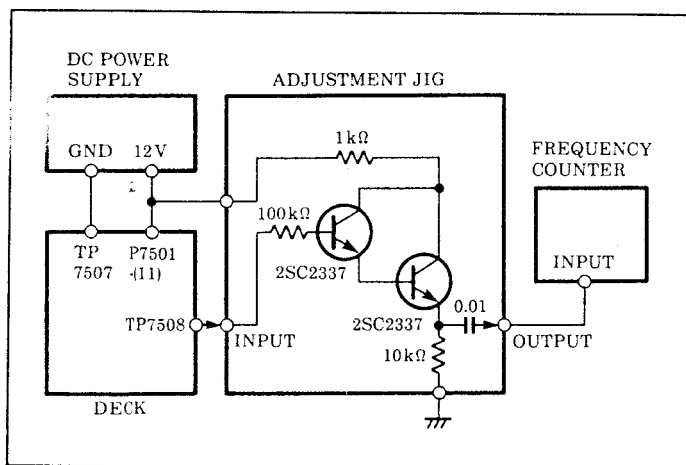


Fig. 35

3. Adjust R7595 so that the indication of the FREQUENCY COUNTER becomes 15.625 ± 50 Hz.

2-3-26. SELECTIVE COIL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE	A=2V _{p-p} B=38.9MHz	

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V.
2. Set the AFC SW of the deck to OFF position.
3. Connect the VIF SWEEP to TP703 and connect the MONITOR SCOPE to TP707 as shown below.

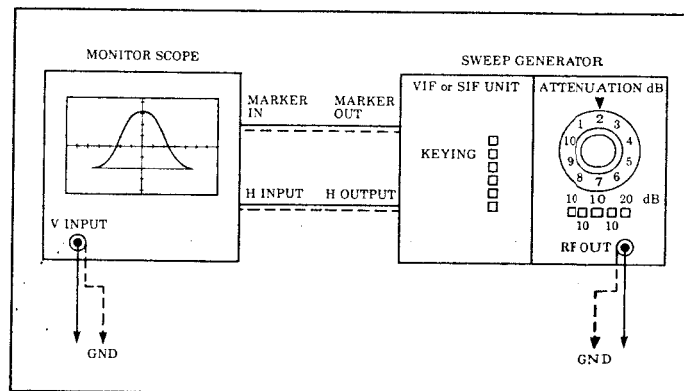


Fig. 36 Connection of Measuring Equipment

4. Connect the JIG to both points TP709 and P703-11 as shown below.

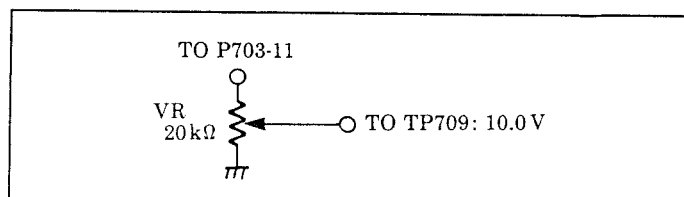


Fig. 37 Adjustment Jig

TV DEMODULATOR SECTION

Model No.: NV-730EG/EO

2-3-25. TEST EQUIPMENTS

To make adjustment completely, following equipments are required.

1. VIF SWEEP GENERATOR with the Trap
Adjustor 38.9MHz
2. SIF SWEEP GENERATOR 5.5MHz ± 150kHz
3. CW OSCILLATOR 38.9MHz ± 100kHz
4. MONITOR SCOPE
5. OSCILLOSCOPE
6. DIGITAL VOLT METER

5. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 2V_{p-p}.
6. Turn T704 2 turns clockwise or counterclockwise.
7. Adjust T703 so that the marker position at 38.9MHz becomes peak point as shown below.

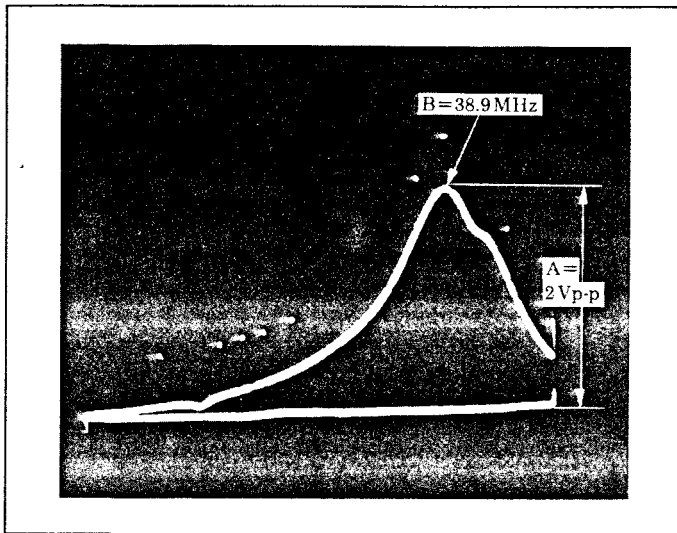


Fig. 38

8. Adjust T704 so that the marker position at 38.9MHz becomes as shown below.

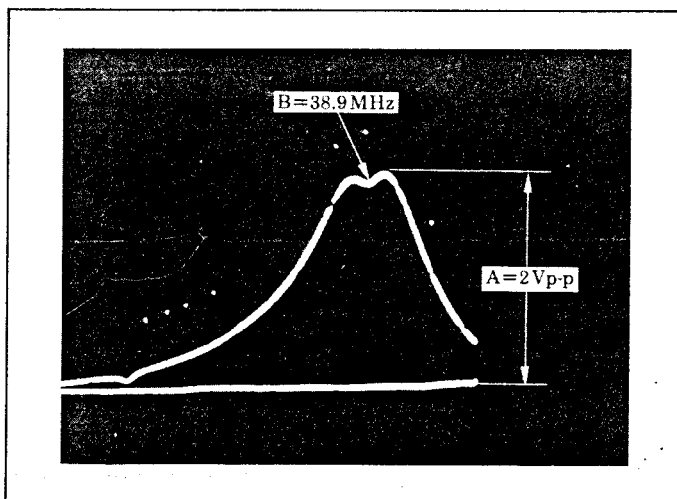


Fig. 39

2-3-27. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T701 T702 T705 (EG)		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15V \pm 1V$.
2. Set the AFC SW of the deck to OFF position.
3. Connect a jumper wire between TP701 and GND. Connect a 100Ω resistor between TP704 and TP705.

4. Connect the VIF SWEEP GENERATOR to TEST POINT of the tuner. And connect the MONITOR SCOPE to TP707.
5. Connect the JIG. 1 both points TP709 and P703-11.
6. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 1.0Vp-p. Then release 20dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
7. Adjust T702 so that the 33.4MHz trap becomes minimum.
8. Adjust T701-(B) so that the 40.4MHz trap becomes minimum.
9. Adjust T705 so that the 32.4MHz trap becomes minimum.
10. Adjust T701-(C) so that the 31.9MHz trap becomes minimum.
11. Adjust VR1 of JIG. 1 so that the sweep wave becomes 1.0Vp-p.
12. Adjust the tuner converter coil and T701-(A) so that the sweep output waveform becomes as follows.

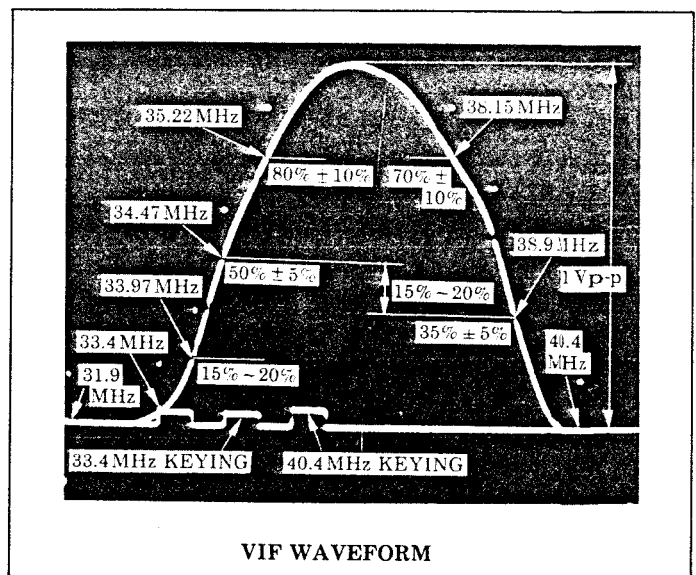


Fig. 40

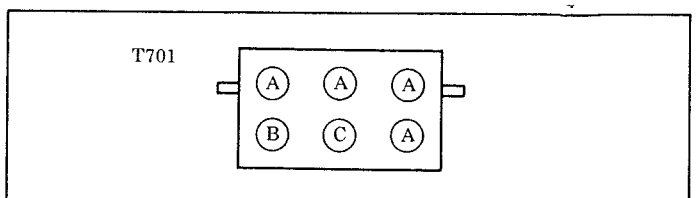


Fig. 41

2-3-28. SIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW of the deck to the VHF high position (VH). Turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15V \pm 1V$.
2. Set the AFC SW of the deck to the OFF position.
3. Connect the SIF SWEEP GENERATOR to TP706. And connect the MONITOR SCOPE to TP710.
4. Connect the JIG. 1 to both points TP709 and P703-11. Adjust the VR1 of the JIG. 1 so that the DC level becomes less than 5 V.
5. Set the output of the SIF SWEEP GENERATOR to 700mVp-p at no load.
6. Adjust T752 so that the attenuation of 5.5MHz trap becomes minimum.
7. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as show below.

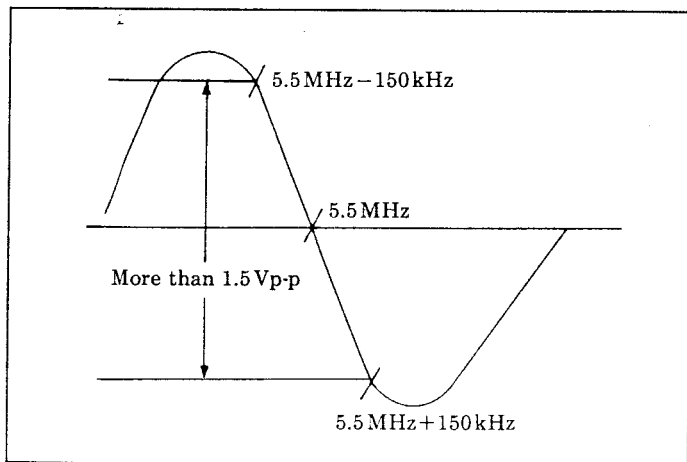


Fig. 42 SIF WAVEFORM

8. Confirm that the level between the 150kHz marker positions is more than 1.5 Vp-p.

2-3-29. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OS- CILLATOR/ D.V.M.	$6.5 \pm 0.3V$	

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15V \pm 1V$.
2. Set the CW OSCILLATOR output to 38.9MHz 1Vp-p and connect the CW OSCILLATOR output to the TUNER TEST POINT.
3. Connect the D.V.M. to the AFC TERMINAL of the tuner.
4. Cofirm the reading "A" of the D.V.M. is 6.5 V, when the AFC SW is OFF.
5. Set the AFC SW to ON and adjust T704 for $6.5 \pm 0.3V$.
6. Change the frequency of the CW OSCILLATOR $\pm 100kHz$, centered at 38.9MHz. And confirm that the difference of the AFC voltage is more than $\pm 2V$.

2-3-30. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLO- SCOPE	VIDEO LEVEL $1.0 \pm 0.2Vp-p$ BURST LEVEL $240 \pm 20mVp-p$	

1. Supply the RF COLOUR BAR SIGNAL to RF IN TERMINAL and tune this signal.
2. Set the AFC SW to ON position.
3. Confirm that the video level at TP711 is $1.0 \pm 0.2Vp-p$.
4. Adjust VR741 so that the burst level becomes $240 \pm 20mVp-p$ as shown below.

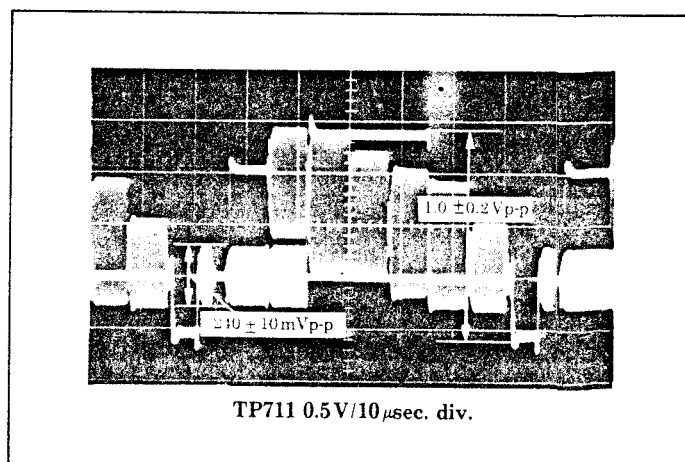


Fig. 43

TV DEMODULATOR SECTION
Model No.: NV-730E

2-3-31. TEST EQUIPMENTS

To make adjustment completely, following equipments are required.

- 1. VIF SWEEP GENERATOR with the Trap
Adjustor 38.9MHz
- 2. SIF SWEEP GENERATOR 5.5MHz ± 150kHz
- 3. CW OSCILLATOR 38.9MHz ± 100kHz
- 4. MONITOR SCOPE
- 5. OSCILLOSCOPE
- 6. DIGITAL VOLT METER

2-3-32. SELECTIVE COIL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP MONITOR SCOPE	A=2Vp-p B=38.9MHz	

- 1. Set the BAND SW of the deck to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V.
- 2. Set the AFC SW of the deck to OFF position.
- 3. Connect the VIF SWEEP to TP703 and connect the MONITOR SCOPE to TP707 as shown below.

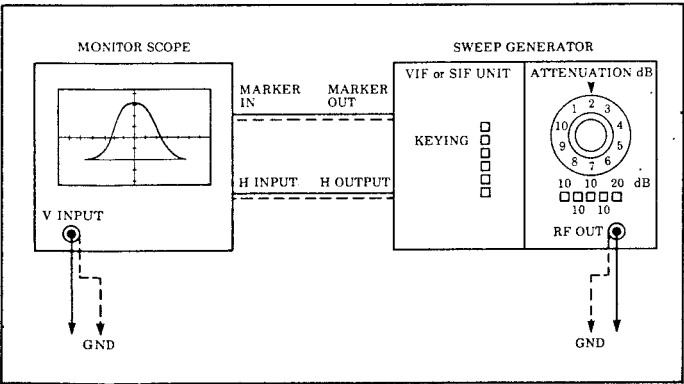


Fig. 44 Connection of Measuring Equipment

- 4. Connect the JIG to both points TP709 and P703-11 as shown below.

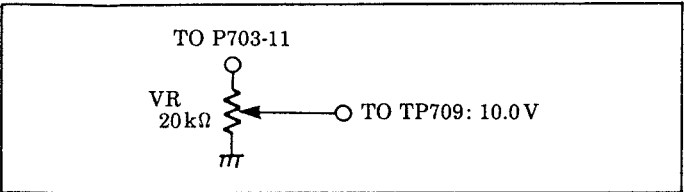


Fig. 45 ADJUSTMENT JIG. 1

- 5. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 2Vp-p.
- 6. Turn T704 2 turns clockwise or counterclockwise.
- 7. Adjust T703 so that the marker position at 38.9MHz becomes peak point as shown below.

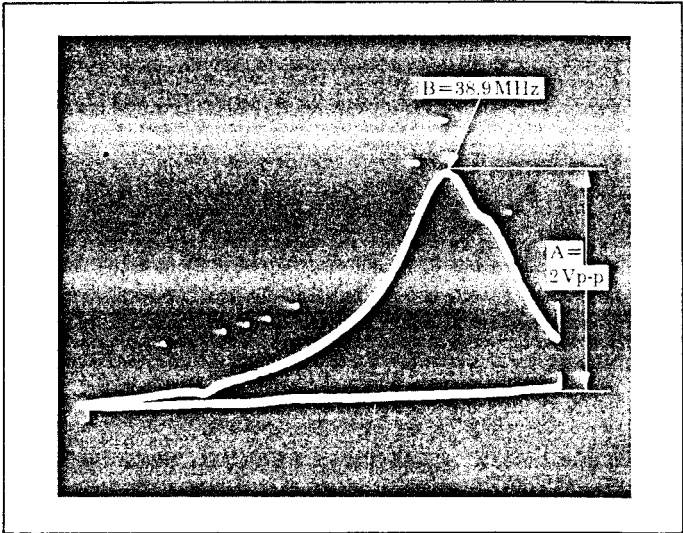


Fig. 46

- 8. Adjust T704 so that the marker position at 38.9MHz becomes as shown below.

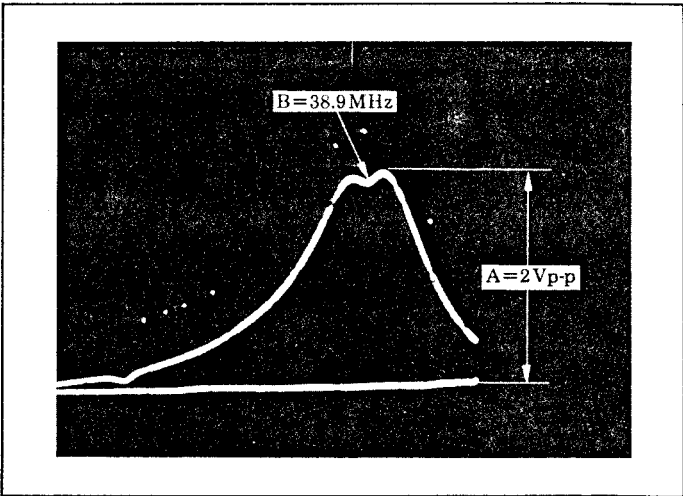


Fig. 47

2-3-33. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T701 T702 T705 (EG)		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15\text{V} \pm 1\text{V}$.
2. Set the AFC SW of the deck to the OFF position.
3. Connect a jumper wire between TP701 and GND. Connect the 100Ω resistor between TP704 and TP705.
4. Connect the VIF SWEEP GENERATOR to TEST POINT of the tuner, and connect the MONITOR SCOPE to TP707.
5. Connect the JIG. 1 both points TP709 and P703-11.
6. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 1.0Vp-p . And then release 20dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
7. Adjust T702 so that the 33.4MHz trap becomes minimum.
8. Adjust T701-(B) so that the 40.4MHz trap becomes minimum.
9. Adjust T701-(C) so that the 31.9MHz trap becomes minimum.
10. Adjust VR1 of JIG. 1 so that the sweep wave becomes 1.0Vp-p .
11. Adjust the tuner converter coil and T701-(A) so that the sweep output waveform becomes as follows.

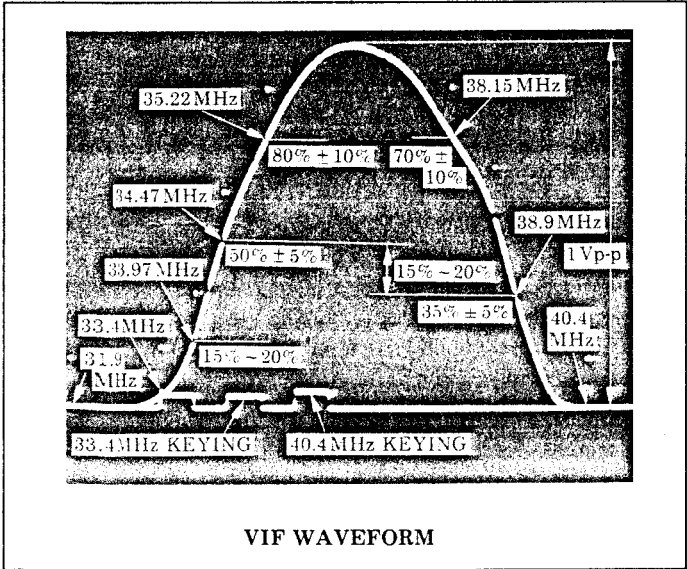


Fig. 48

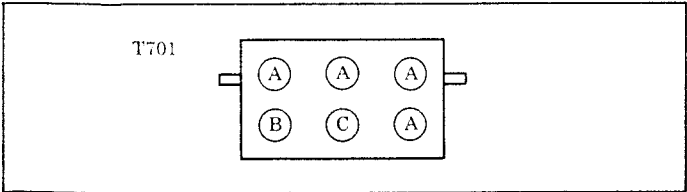


Fig. 49

2-3-34. SIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15\text{V} \pm 1\text{V}$.
2. Set the AFC SW of the deck to the OFF position.
3. Connect the SIF SWEEP GENERATOR to TP706 and connect the MONITOR SCOPE to TP710.
4. Connect the JIG. 1 to both points TP709 and P703-11. Adjust the VR1 of the JIG. 1 so that the DC level becomes less than 5V .
5. Set the output of the SIF SWEEP GENERATOR to 700mVp-p at no load.
6. Adjust T752 so that the attenuation of 5.5MHz trap becomes minimum.
7. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as show below.

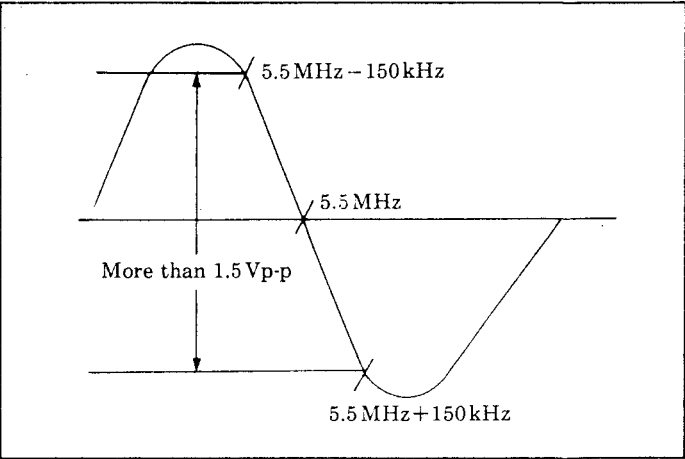


Fig. 50 SIF WAVEFORM

8. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p .

2-3-35. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OSCILLATOR/ D.V.M.	$6.5 \pm 0.3\text{V}$	

1. Set the BAND SW of the deck to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15V \pm 1V$.
2. Set the CW OSCILLATOR output to 38.9MHz 1Vp-p and connect the CW OSCILLATOR output to the TUNER TEST POINT.
3. Connect the D.V.M. to the AFC TERMINAL of the tuner.
4. Confirm the reading "A" of the D.V.M. is 6.5 V, when the AFC SW is OFF.
5. Set the AFC SW to ON and adjust T704 for $6.5 \pm 0.3V$.
6. Change the frequency of the CW OSCILLATOR $\pm 100kHz$, centered at 38.9MHz and confirm that the difference of the AFC voltage is more than $\pm 2V$.

2-3-36. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE	VIDEO LEVEL $1.0 \pm 0.2V_{p-p}$ BURST LEVEL $240 \pm 20mV_{p-p}$	

1. Supply the RF COLOUR BAR SIGNAL to RF IN TERMINAL and tune this signal.
2. Set the AFC SW to ON position.
3. Confirm that the video level at TP711 is $1.0 \pm 0.2V_{p-p}$.
4. Adjust VR741 so that the burst level becomes $240 \pm 20mV_{p-p}$ as shown below.

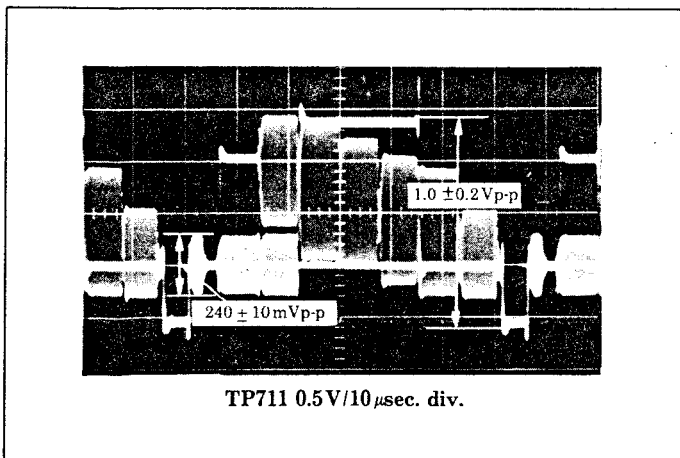


Fig. 51

TV DEMODULATOR SECTION

Model No.: NV-730B

2-3-37. TEST EQUIPMENTS

To make adjustment completely, following equipments are required.

1. VIF SWEEP GENERATOR with the Trap
Adjustor 39.5 MHz
2. SIF SWEEP GENERATOR 6.0MHz $\pm 150kHz$
3. CW OSCILLATOR 38.9MHz $\pm 100kHz$
4. MONITOR SCOPE
5. OSCILLOSCOPE
6. DIGITAL VOLT METER

2-3-38. SELECTIVE COIL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE	A=2Vp-p B=39.5MHz	

1. Turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V.
2. Set the AFC SW of the deck to OFF position.
3. Connect the VIF SWEEP to TP703 and connect the MONITOR SCOPE to TP707 as shown below.

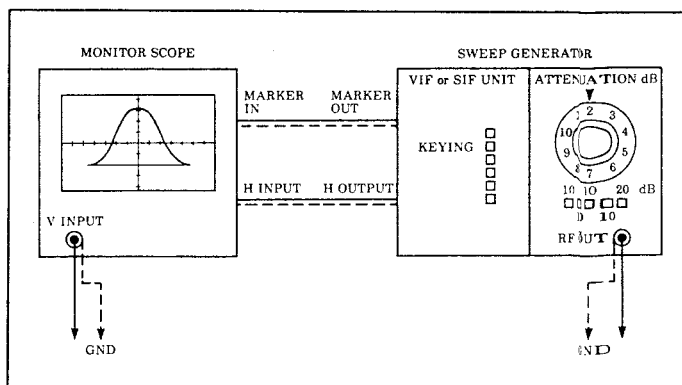


Fig. 52 Connection of Measuring Equipment

4. Connect the JIG to both points TP709 and P703-11 as shown below.

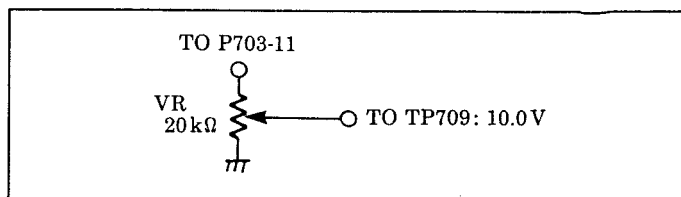


Fig. 53 ADJUSTMENT JIG. 1

- Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 2Vp-p.
- Turn T704 2 turns clockwise or counterclockwise.
- Adjust T703 so that the marker position at 39.5MHz becomes peak point as shown below.

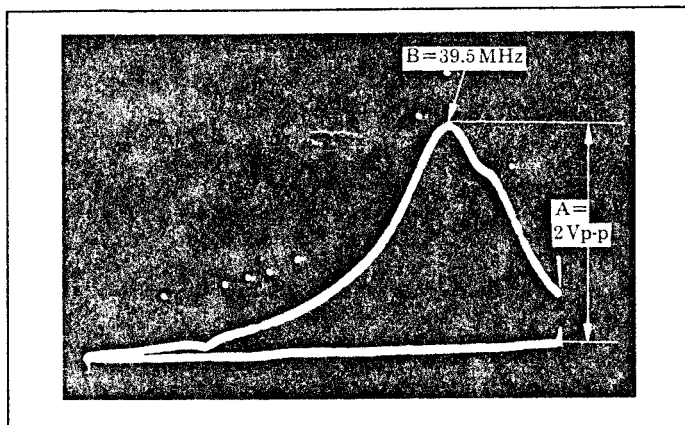


Fig. 54

- Adjust T704 so that the marker position at 39.5MHz becomes as shown below.

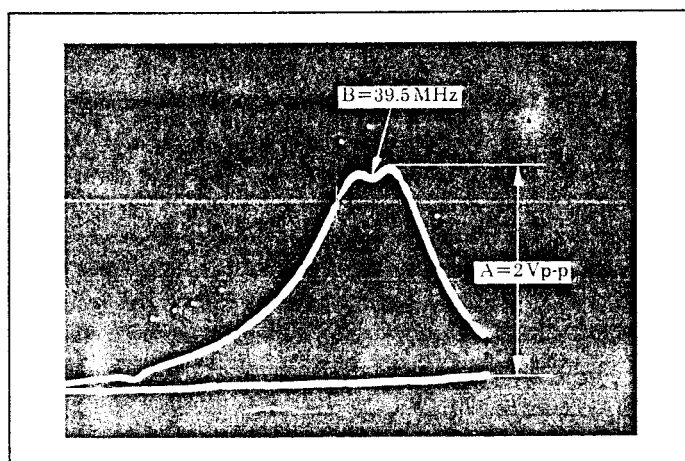


Fig. 55

- Connect the JIG. 1 both points TP709 and P703-11.
- Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 1.0Vp-p and then release 20dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
- Adjust T702 so that the 33.5MHz trap becomes minimum.
- Adjust T701-(B) so that the 41.5MHz trap becomes minimum.
- Adjust T701-(C) so that the 31.5MHz trap becomes minimum.
- Adjust VR1 of JIG. 1 so that the sweep wave becomes 1.0Vp-p.
- Adjust the tuner converter coil and T701-(A) so that the sweep output waveform becomes as follows.

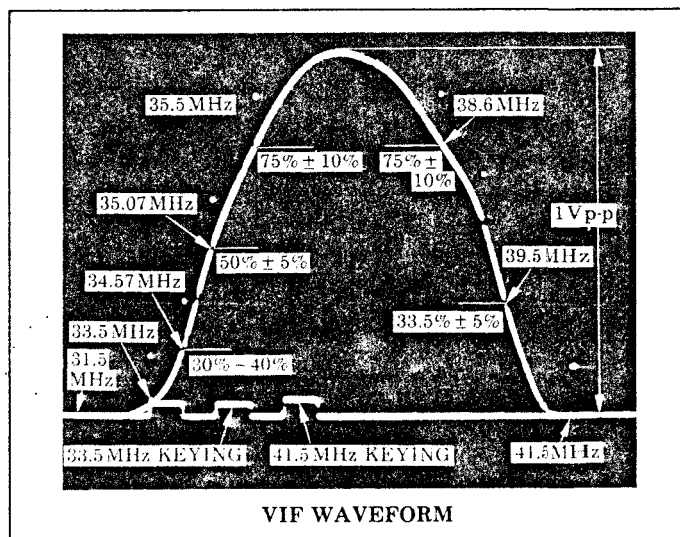


Fig. 56

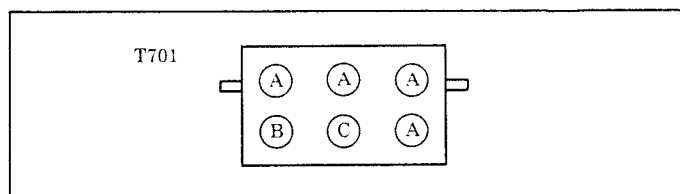


Fig. 57

2-3-39. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T701 T702 T705 (EG)		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP MONITOR SCOPE		

- Turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15V \pm 1V$.
- Set the AFC SW of the deck to OFF position.
- Connect a jumper wire between TP701 and GND and connect the 100Ω resistor between TP704 and TP705.
- Connect the VIF SWEEP GENERATOR to TEST POINT of the tuner through the 10kΩ resistor and connect the MONITOR SCOPE to TP707.

2-3-40. SIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP MONITOR SCOPE		

- Turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15V \pm 1V$.
- Set the AFC SW of the deck to the OFF position.
- Connect the SIF SWEEP GENERATOR to TP706 and connect the MONITOR SCOPE to TP710.
- Connect the JIG. 1 to both points TP709 and P703-11 and adjust the VR1 of the JIG. 1 so that the DC level becomes less than 5V.
- Set the output of the SIF SWEEP GENERATOR to 700mVp-p at no load.

- Adjust T752 so that the attenuation of 6.0MHz trap becomes minimum.
- Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as show below.

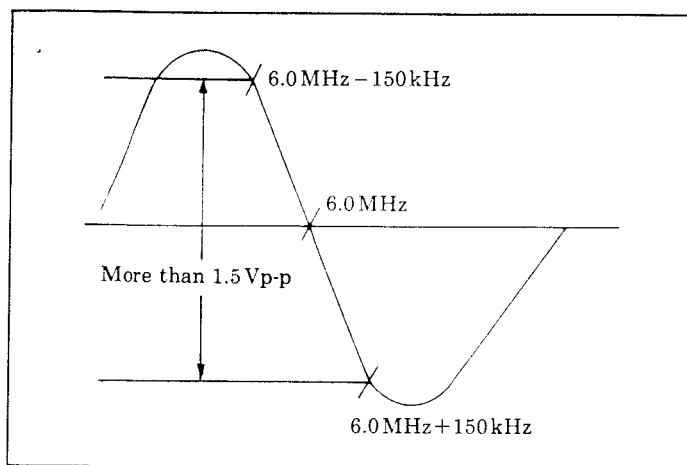


Fig. 58 SIF WAVEFORM

- Confirm that the level between the 150kHz marker position is more than 1.5 Vp-p.

2-3-41. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OSCILLATOR D.V.M.	$6.5 \pm 0.3 \text{ V}$	

- Turn the tuning volume so that the voltage at BT terminal of the tuner becomes $15 \text{ V} \pm 1 \text{ V}$.
- Set the CW OSCILLATOR output to 39.5MHz 1Vp-p and connect the CW OSCILLATOR output to the TUNER TEST POINT.
- Connect the D.V.M. to the AFC TERMINAL of the tuner.
- Confirm the reading "A" of the D.V.M. is 6.5 V, when the AFC SW is OFF.
- Set the AFC SW to ON and adjust T704 for $6.5 \pm 0.3 \text{ V}$.
- Change the frequency of the CW OSCILLATOR $\pm 100 \text{ kHz}$, centered at 39.5 MHz and confirm that the difference of the AFC voltage is more than $\pm 2 \text{ V}$.

2-3-42. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE	VIDEO LEVEL $1.0 \pm 0.2 \text{ Vp-p}$ BURST LEVEL $240 \pm 20 \text{ mVp-p}$	

- Supply the RF COLOUR BAR SIGNAL to RF IN TERMINAL and tune this signal.
- Set the AFC SW to ON position.
- Confirm that the video level at TP711, is $1.0 \pm 0.2 \text{ Vp-p}$.
- Adjust VR741 so that the burst level becomes $240 \pm 20 \text{ mVp-p}$ as shown below.

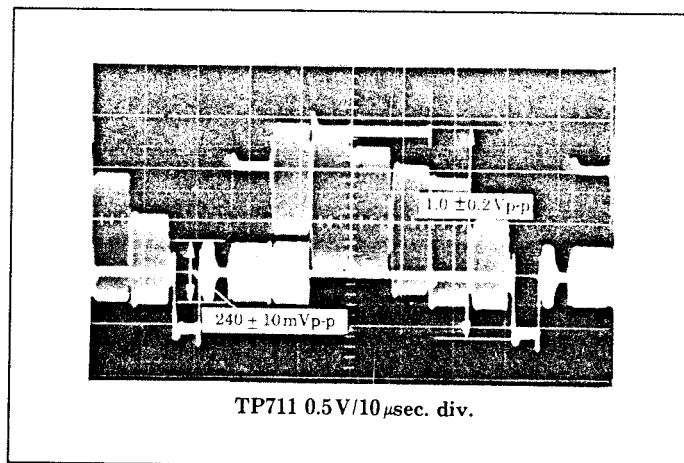
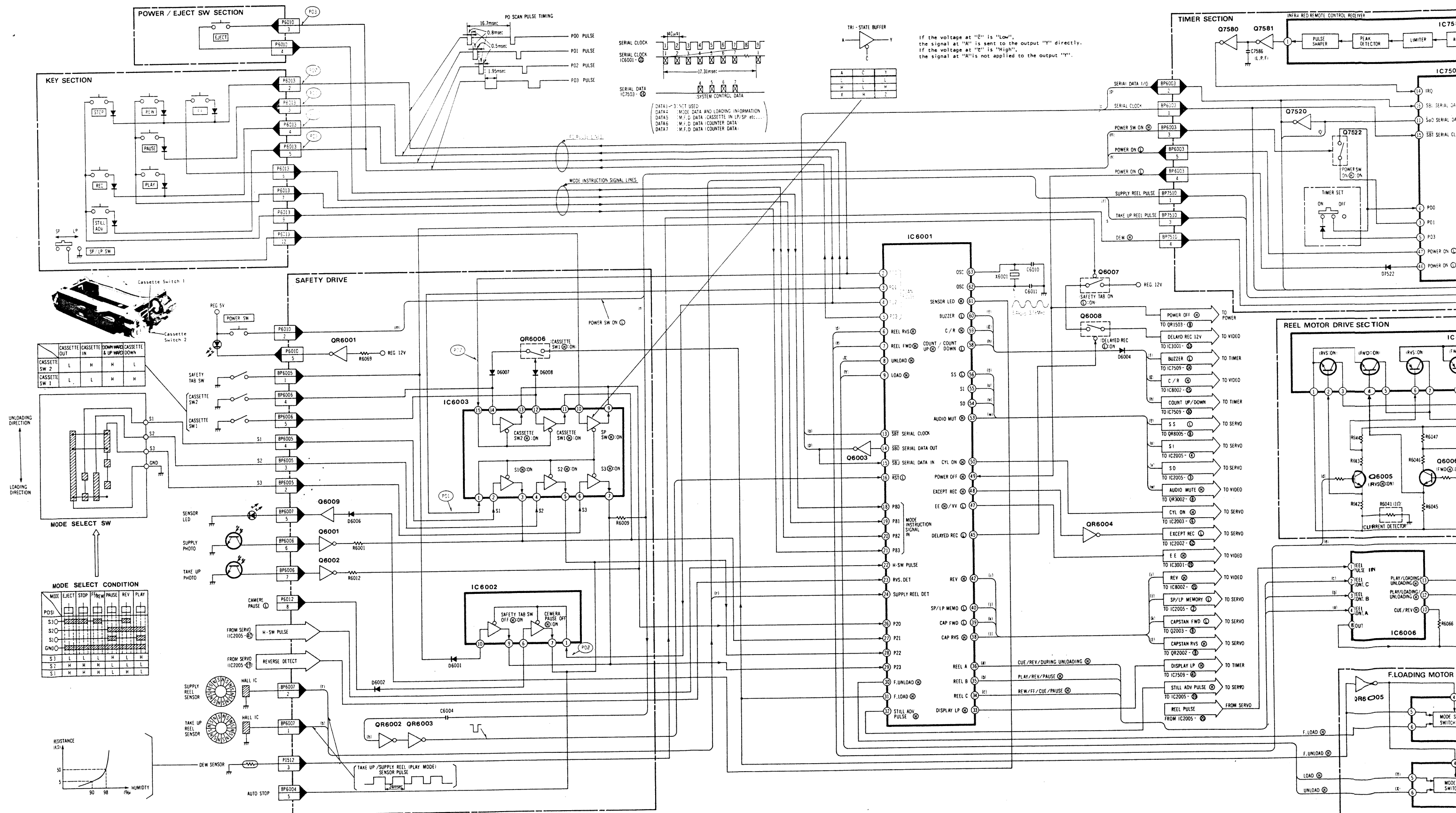
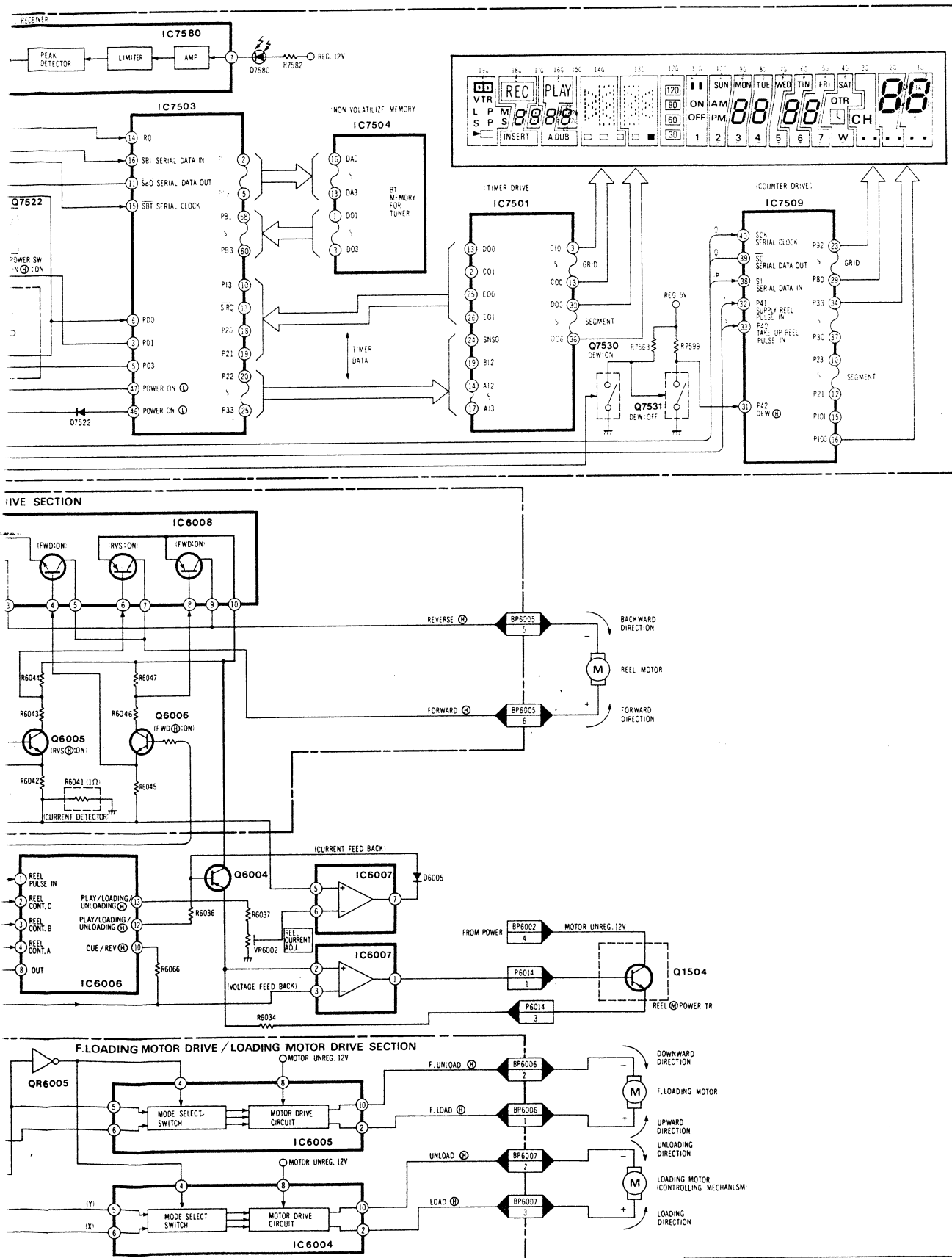


Fig. 59

SECTION 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3-1. SYSTEM CONTROL BLOCK DIAGRAM





UP: IC3001-5 REC
0.5V/20sec.div.
DOWN: IC3001-4 REC
5V/20sec.div.

CLAMP

NON-LINEAR

LUMINANCE SIGNAL

4MHz

IC3001-7 PLAY
0.2V/20sec.div.

JUMP PULSE

VIDEO OUT

TO RF CONV

TO OPERATION

FROM OPERATION

PICTURE

EXCEPT REC

FROM POWER

REG SV

IC3001

PICTURE CONTROL

DOC DET

DOC SW

DOC AMP

H.P.F.

L.P.F.

LIMITER 1

AMP

1H DELAY

DL3001

PHASE COMPENSATOR

FL3004

30004

30003

30002

30001

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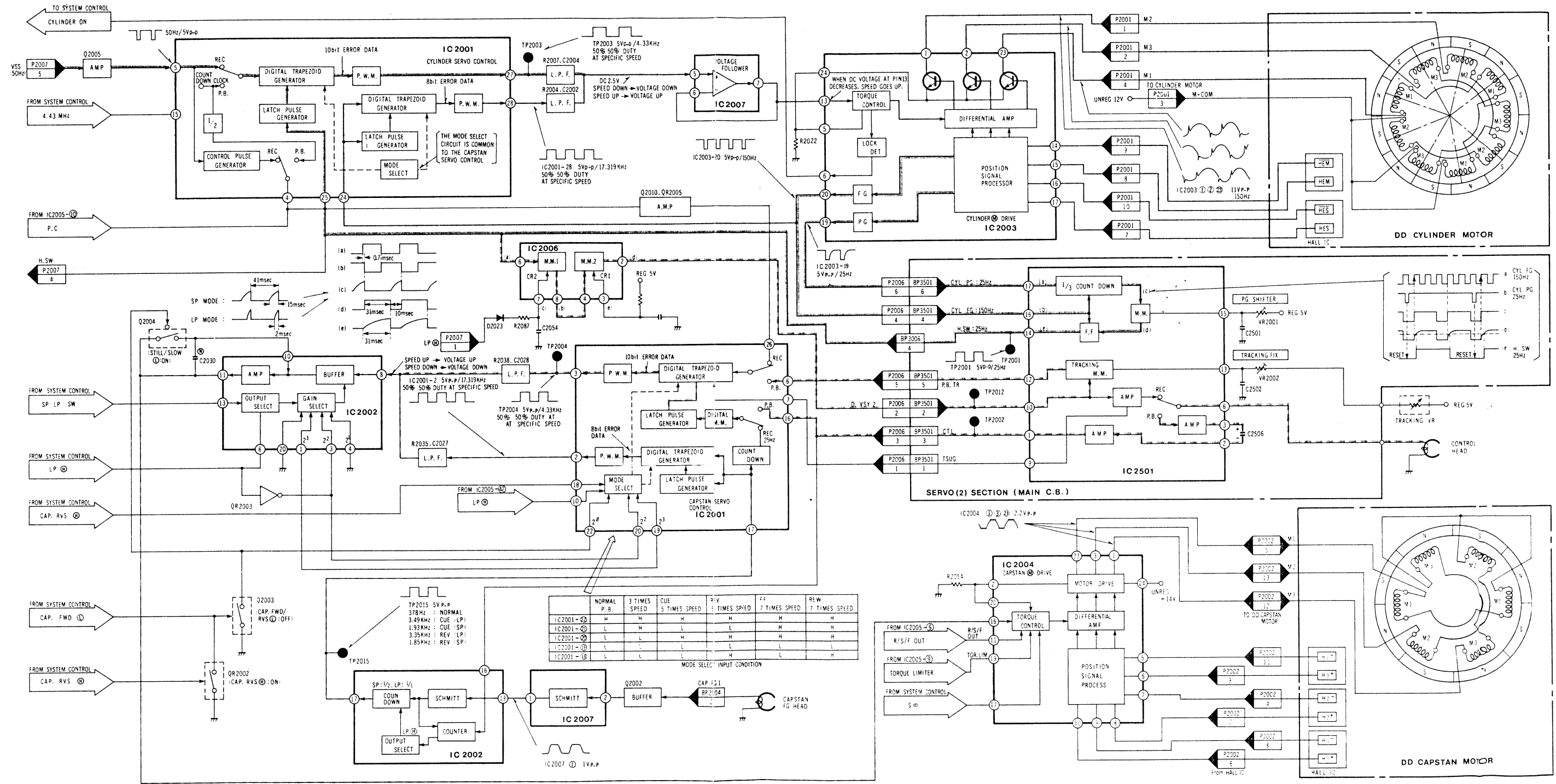
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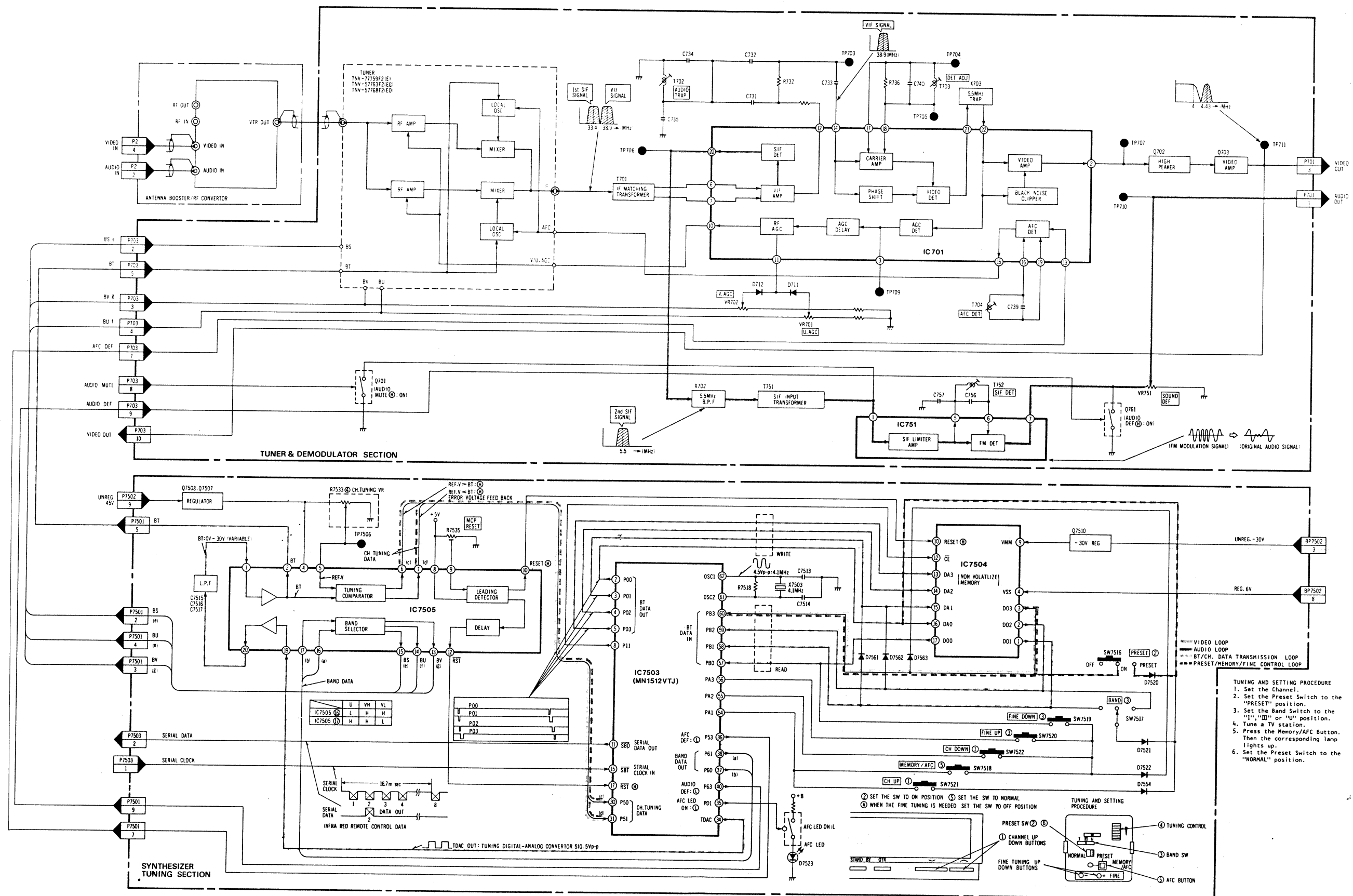
This is a detailed schematic diagram of a video cassette recorder (VCR) system, showing the internal circuitry and signal paths. The diagram is divided into several main sections:

- Top Section:** Contains various input and output connectors, including BP3001, BP3002, BP3003, BP3004, BP3005, BP3006, BP3007, BP3008, BP3009, BP3010, BP3011, BP3012, BP3013, BP3014, BP3015, BP3016, BP3017, BP3018, BP3019, BP3020, BP3021, BP3022, BP3023, BP3024, BP3025, BP3026, BP3027, BP3028, BP3029, BP3030, BP3031, BP3032, BP3033, BP3034, BP3035, BP3036, BP3037, BP3038, BP3039, BP3040, BP3041, BP3042, BP3043, BP3044, BP3045, BP3046, BP3047, BP3048, BP3049, BP3050, BP3051, BP3052, BP3053, BP3054, BP3055, BP3056, BP3057, BP3058, BP3059, BP3060, BP3061, BP3062, BP3063, BP3064, BP3065, BP3066, BP3067, BP3068, BP3069, BP3070, BP3071, BP3072, BP3073, BP3074, BP3075, BP3076, BP3077, BP3078, BP3079, BP3080, BP3081, BP3082, BP3083, BP3084, BP3085, BP3086, BP3087, BP3088, BP3089, BP3090, BP3091, BP3092, BP3093, BP3094, BP3095, BP3096, BP3097, BP3098, BP3099, BP3100, BP3101, BP3102, BP3103, BP3104, BP3105, BP3106, BP3107, BP3108, BP3109, BP3110, BP3111, BP3112, BP3113, BP3114, BP3115, BP3116, 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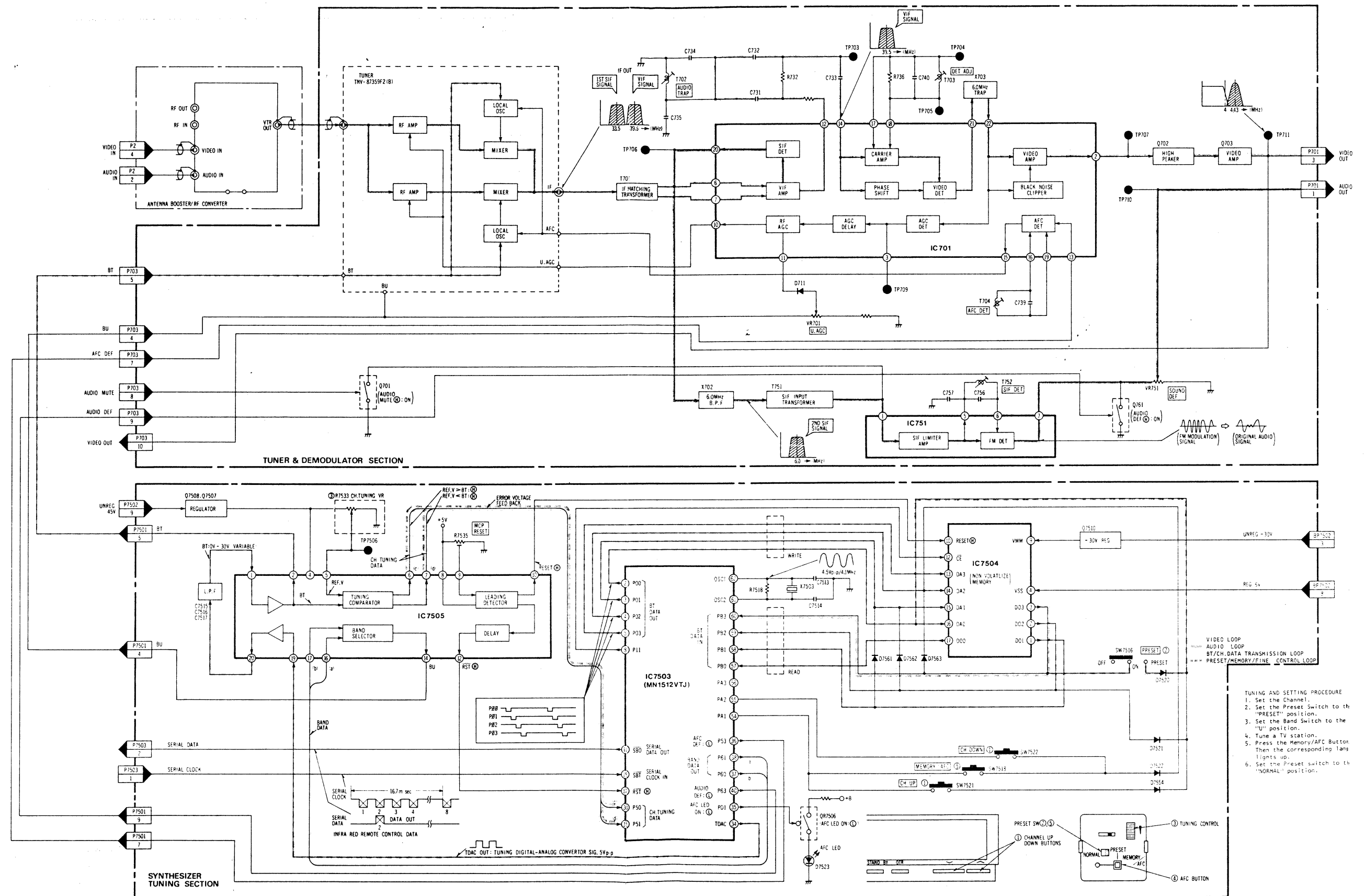
3-4. SERVO BLOCK DIAGRAM



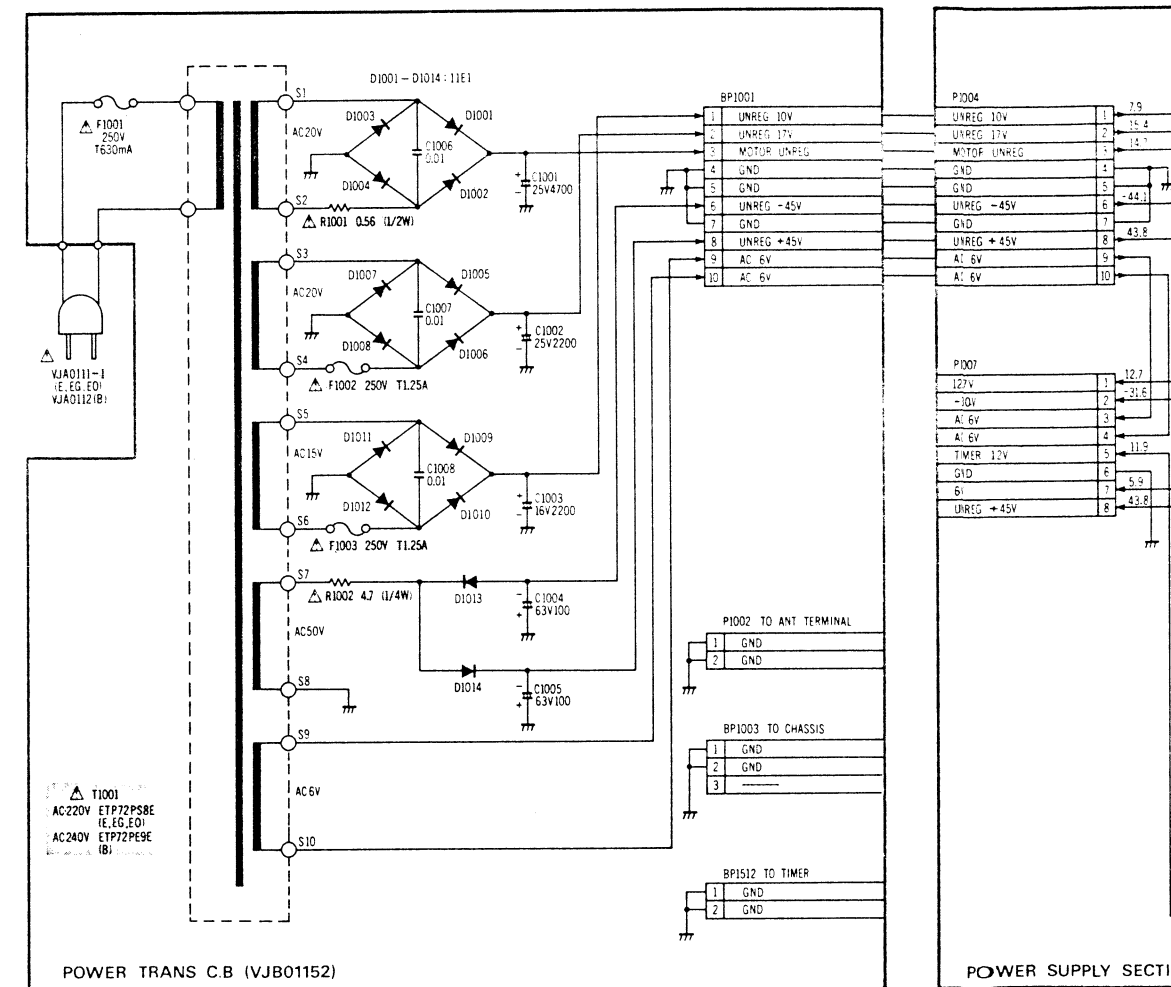
3-5. TIMER & DEMODULATOR BLOCK DIAGRAM (NV-730E/EG/EO)



3-6. TIMER & DEMODULATOR BLOCK DIAGRAM (NV-730B)

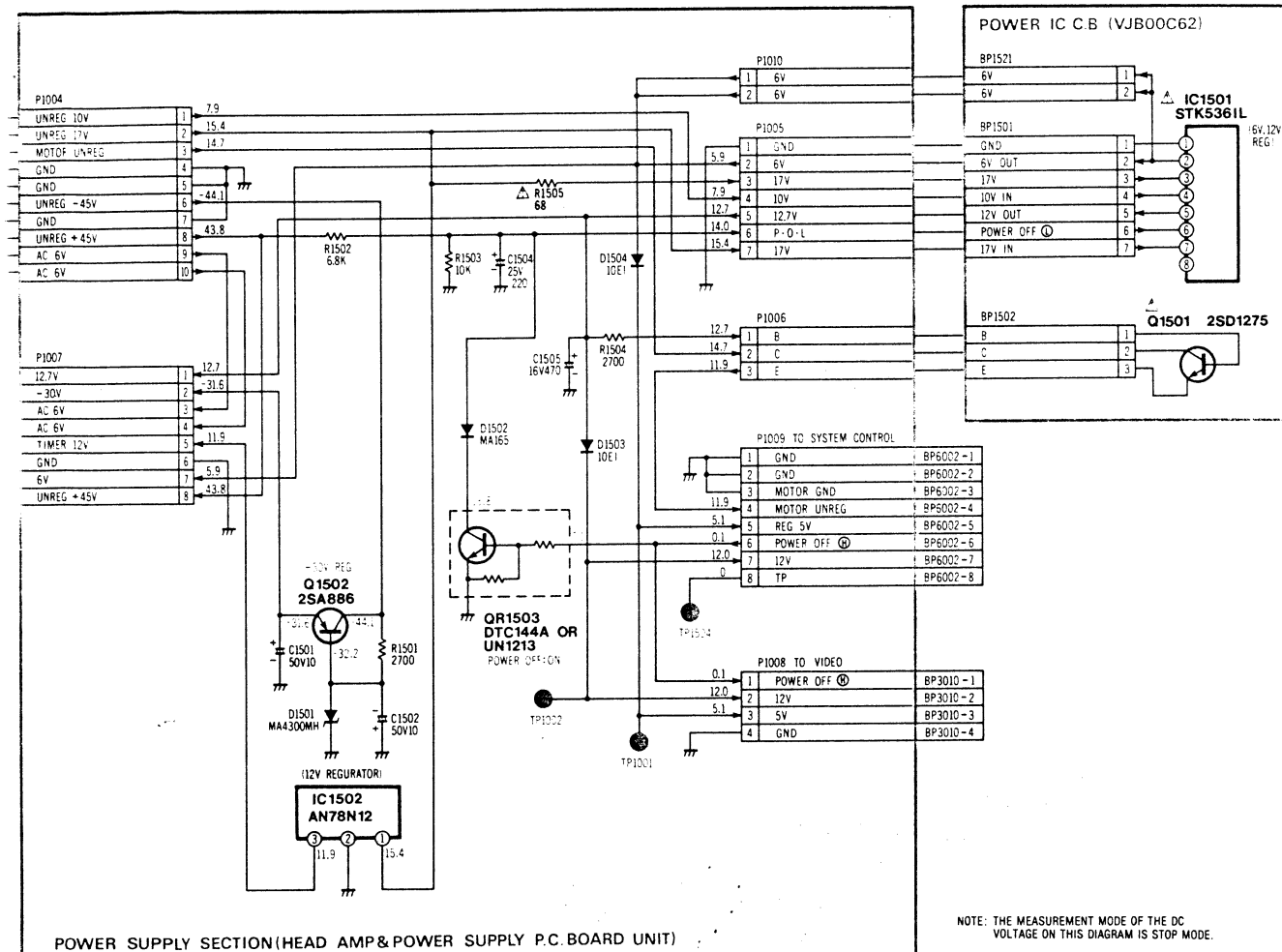


3-8. POWER SUPPLY SCHEMATIC DIAGRAM



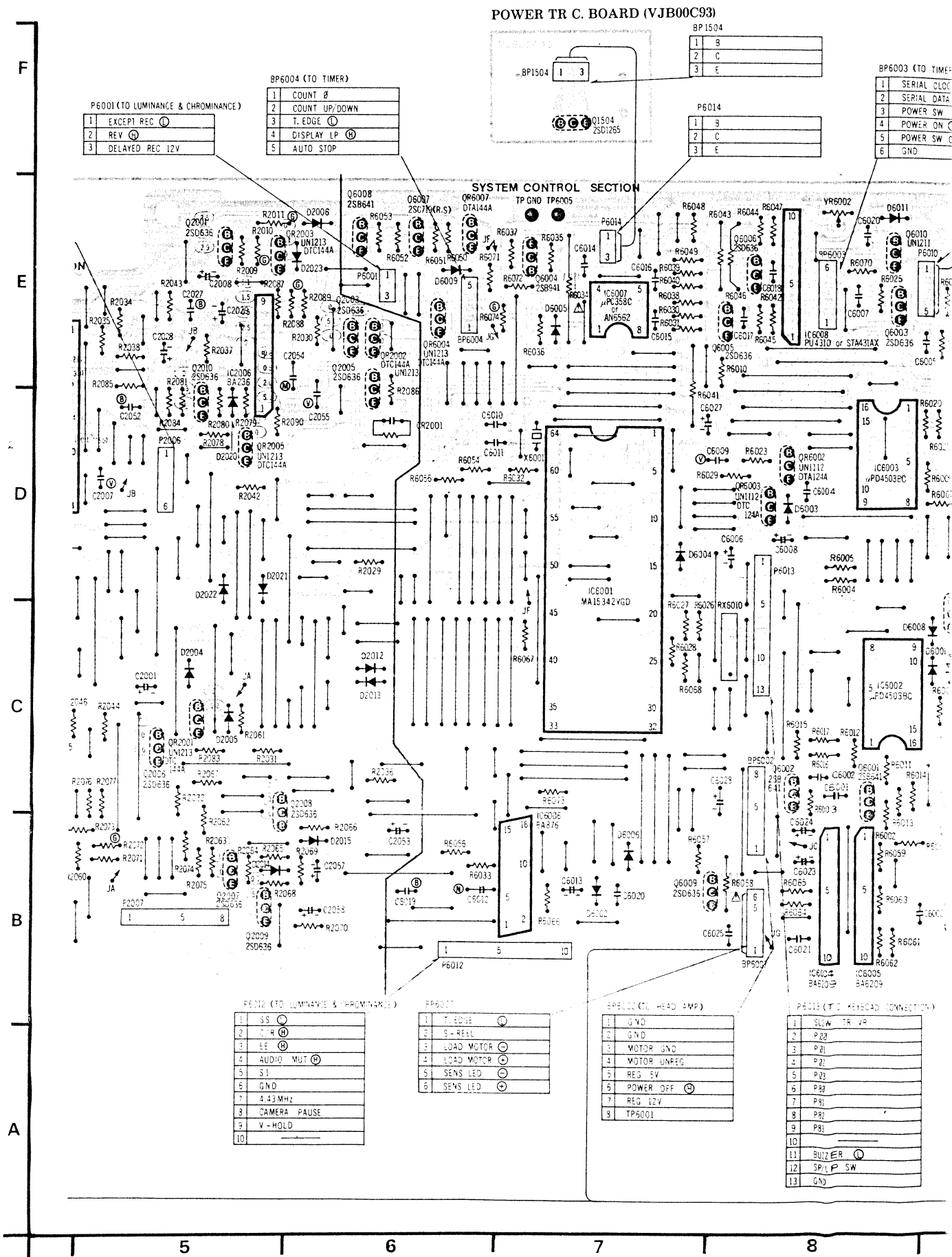
The diagrams show three transistors and a circuit diagram:

- 2SA886:** A PNP transistor with pins labeled E (Emitter), C (Collector), and B (Base).
- 2SD1265 2SD1275:** An NPN transistor with pins labeled B (Base), C (Collector), and E (Emitter).
- AN78N12:** An NPN transistor with pins labeled 1 (Base), 3 (Collector), and 3 (Emitter).
- Circuit Diagram:** A common-emitter amplifier circuit. The input signal is applied to the base (B) through a 47K resistor. The emitter (E) is connected to ground through a 47K resistor. The output is taken from the collector (C).



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-9. SYSTEM CONTROL Section In Servo & System Control Circuit Board



MECHANISM CONNECTION C. BOARD (VJB00C84)

BP6003 (TO TIMER)

1	SERIAL CLOCK
2	SERIAL DATA
3	POWER SW
4	POWER ON
5	POWER SW ON
6	GND

P6010

1	REG 5V
2	POWER SW
3	EJECT SW
4	EJECT SW
5	LED

BP6005

1	SAFETY TAB
2	S3
3	S2
4	S1
5	REEL MOTOR
6	REEL MOTOR

P6005

5	1
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BP6006

1	REC 5V
2	POWER SW
3	EJECT SW
4	EJECT SW
5	LED

BP6006

1	F LOAD M
2	F LOAD M
3	GND
4	CASSETTE SW2
5	CASSETTE SW1
6	SUPPLY PHOTO
7	TAKE UP PHOTO

P6013 (TO KEYBOARD CONNECTION)

1	SLOW TR VR
2	P20
3	P01
4	P02
5	P23
6	P30
7	P81
8	P82
9	P83
10	
11	Buzzer
12	SP/LP SW
13	GND

P1512 (TO TIMER)

1	S-REEL
2	T-REEL
3	DEW
4	TIMER 12V

P1513

1	T-REEL
2	SAFETY TAB
3	S-REEL
4	TIMER 12V
5	LED
6	LED

LED C. BOARD (VJB00C48)

REEL SENSOR C. BOARD (VJB00C37)

POWER/EJECT SW. C. BOARD (VJB00C92)

FRONT LOADING MOTOR C. BOARD (VJB00C39)

SUPPLY SENSOR C. BOARD (VJB00C40)

P1512 (TO TIMER)	
1	S - REEL
2	T - REEL
3	DEW
4	TIMER 12V

LED C. BOARD
(VJB00C48)

REEL SENSOR C. BOARD (VJB00C37)

**SUPPLY SENSOR
C. BOARD (VJB00C40)**

FRONT LOADING MOTOR C. BOARD (VJB00C39)

SERVO & SYSTEM
CONTROL CIRCUIT
BOARD

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART (SP Mode)

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART (LP Mode)

5. DIODES & TRANSISTORS INFORMATION

SYSTEM CONTROL ICs VOLTAGE CHART (SP Mode)

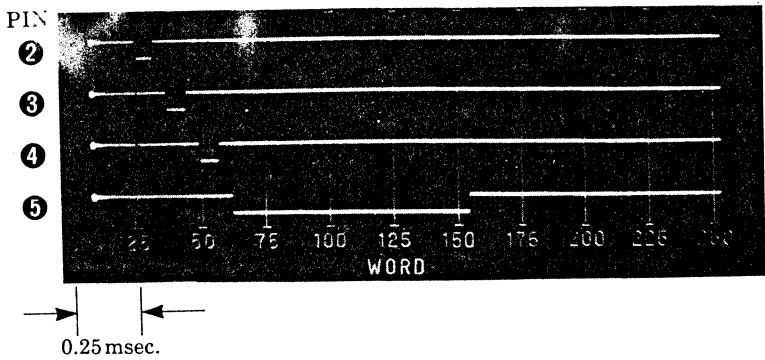
REF. NO.		IC6001																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	5.1	5.1	5.1	5.1	4.6	0.1	0.1	0	0	3.9	5.1	5.1	4.7	0.2	0.8	5.1	2.5	5.1	5.1	5.1
PLAY	0	5.1	5.1	5.1	5.1	4.5	0.1	5.0	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
REC	0	5.1	5.1	5.1	5.1	4.6	0.1	5.0	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
F.F	0	5.1	5.1	5.1	5.1	4.6	0.1	5.0	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
REW	0	5.1	5.1	5.1	5.1	4.6	5.0	0.1	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
REF. NO.		IC6001																			
MODE		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.1	0	0.7	4.2	0	0.1	0.1	5.0	0.1	0	0	0	0.1	0	0	0	4.7	0	5.1	5.1	
PLAY	5.1	2.5	0.1	2.0	0	0.1	0	5.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.1	0.1	4.7	0.1	0.1	5.1
REC	5.1	2.6	0.1	2.0	0	0.1	0	5.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.1	0.1	4.7	0.1	0.1	5.1
F.F	5.1	0	0.7	1.7	0	0.1	0.1	5.0	0.1	0	0	0	0.1	5.1	0	0	4.7	0	5.1	5.1	
REW	5.1	0	0.7	1.8	0	0.1	0.1	5.0	0.1	0	0	0	0.1	5.1	0	0	4.7	0	5.1	5.1	
REF. NO.		IC6001																			
MODE		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.1	0.2	0.1	0.1	12.0	5.1	5.0	5.1	0.1	0.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	0.1	0.1	5.1
PLAY	5.1	0.2	0.1	0	12.0	0.1	0.3	5.1	0.1	5.1	0.1	5.1	0.1	0.1	0.1	5.1	5.0	5.1	5.1	0.1	5.1
REC	5.1	0.2	0.1	0.1	0.3	5.1	5.0	0.1	0.1	5.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	5.1	0.1	5.1
F.F	5.1	0.2	0.1	0.1	12.0	5.1	5.0	5.1	0.1	0.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	5.1	0.1	5.1
REW	5.1	0.2	0.1	0.1	12.0	5.1	5.0	5.1	0.1	0.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	5.1	0.1	5.1
REF. NO.		IC6001																			
MODE		61	62	63	64																
STOP	0.2	2.2	2.3	5.1																	
PLAY	0.2	2.2	2.3	5.1																	
REC	0.2	2.2	2.3	5.1																	
F.F	0.7	2.2	2.3	5.1																	
REW	0.7	2.2	2.3	5.1																	
REF. NO.		IC6002																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	5.1	5.1	0.1	0	0.1	5.1	5.0	0	0.1	0.9	0.1	0	5.0	0	5.1	5.1					
PLAY	5.1	5.1	0.1	0	0	5.1	5.0	0	0.2	0.6	0.2	0	5.0	0	5.1	5.1					
REC	5.1	5.1	0.1	0	0	5.1	5.0	0	0.2	0.6	0.2	0	5.0	0	5.1	5.1					
F.F	5.1	5.1	0.1	0	0.1	5.1	5.0	0	0.1	0.6	0.1	0	5.0	0	5.1	5.1					
REW	5.1	5.1	0.1	0	0.1	5.1	5.0	0	0.1	0.6	0.1	0	5.0	0	5.1	5.1					
REF. NO.		IC6003																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	5.1	5.1	0.1	5.1	5.0	0	0.1	0	0.1	5.0	0.1	5.1	0	0	5.1	5.1					
PLAY	5.1	0	0	0	5.0	5.1	0.2	0	0.1	5.0	0	5.1	0.1	0	5.1	5.1					
REC	5.1	0	0	0	5.0	5.1	0.2	0	0.1	5.0	0.1	5.1	0.1	0	5.1	5.1					
F.F	5.1	5.1	0.1	5.1	5.0	0	0.1	0	0.1	5.0	0.1	5.1	0.1	0	5.1	5.1					
REW	5.1	5.1	0.1	5.1	5.0	0	0.1	0	0.1	5.0	0.1	5.1	0.1	0	5.1	5.1					
REF. NO.		IC6004										IC6005									
MODE		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
STOP	0	0.5	0.9	10.9	0	0	12.0	11.9	0.9	0.5	0	0.5	0.9	10.9	0	0	12.0	11.9	0.9	0.5	
PLAY	0	0.5	0.9	10.9	0	0	12.0	11.1	0.9	0.5	0	0.5	0.9	10.9	0.1	0.1	12.0	11.1	0.9	0.5	
REC	0	0.5	0.9	10.9	0	0	12.0	11.1	0.9	0.5	0	0.5	0.9	10.9	0.1	0	12.0	11.1	0.9	0.5	
F.F	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	
REW	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	
REF. NO.		IC6006																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0.1	0	0	0	0	0	5.1	0	0	0	0	0	0	1.0	12.0	0	12.0				
PLAY	0.1	0.1	5.1	0.1	0.1	0.1	5.1	4.1	4.3	3.9	0	2.6	3.8	12.0	0	12.0					
REC	0.1	0.1	5.1	0.1	0.1	0.1	5.1	4.1	4.3	3.9	0	2.6	3.8	12.0	0	12.0					
F.F	0.1	5.1	0	0	0.1	0.1	0	7.6	7.8	7.2	0	0.3	1.0	12.0	0	12.0					
REW	0.1	5.1	0	0	0.1	0.1	0	7.6	7.8	7.2	0	0.3	1.0	12.0	0	12.0					
REF. NO.		IC6007										IC6008									
MODE		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	9	10	
STOP	0.3	0	0	0	0	0	0.1	0	12.0		0	0	0	0	0	0	0	0	0	0	
PLAY	4.9	4.1	4.1	0	0.2	0.2	1.9	11.1			0.2	0.2	3.0	0.9	0.3	3.1	0.3	2.4	3.1	3.1	
REC	4.9	4.1	4.1	0	0.2	0.2	1.9	11.1			0.2	0.2	3.0	0.9	0.3	3.1	0.3	2.4	3.1	3.1	
F.F	8.4	7.7	7.7	0	0.2	0.1	9.9	11.2			0.1	0.1	7.6	0.9	0.2	7.6	0.2	7.0	7.6	7.7	
REW	8.4	7.7	7.7	0	0.2	0.1	9.9	11.2			0.1	0.9	0.2	0.1	7.6	6.9	7.6	7.7	0.2	7.7	

SYSTEM CONTROL ICs VOLTAGE CHART (LP Mode)

REF. NO.		IC6001																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	5.1	5.1	5.1	5.1	4.6	0.1	0.1	0	0	4.0	5.1	5.1	4.7	0.2	0.9	5.1	2.5	5.1	5.1	5.1
PLAY	0	5.1	5.1	5.1	5.1	4.5	0.1	5.0	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
REC	0	5.1	5.1	5.1	5.1	4.6	0.1	5.0	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
F.F	0	5.1	5.1	5.1	5.1	4.6	0.1	5.0	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
REW	0	5.1	5.1	5.1	5.1	4.6	5.0	0.1	0	0	3.9	5.1	5.1	4.7	0.2	2.7	5.1	2.5	5.1	5.1	5.1
REF. NO.		IC6001																			
MODE		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.1	0	0.7	4.2	0	0.1	0.1	5.0	0.1	0	0	0	0.1	0	0	0	4.7	0	5.1	5.1	
PLAY	5.1	2.5	0.1	2.0	0	0	0	5.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.1	0.1	4.7	0.1	0.1	5.1
REC	5.1	2.6	0.1	2.0	0	0	0	5.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.1	0.1	4.7	0.1	0.1	5.1
F.F	5.1	0	0.7	1.8	0	0	0	5.0	0.1	0	0	0	0	5.1	5.1	0	0	4.7	0	5.1	5.1
REW	5.1	0	0.7	1.8	0	0	0	5.0	0.1	0	0	0	0	5.1	5.1	0	0	4.7	0	5.1	5.1
REF. NO.		IC6001																			
MODE		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.1	0.2	0.1	0.1	12.0	5.1	5.0	5.1	0.1	0.1	0.1	5.1	0.1	5.1	0.1	5.1	5.1	5.1	0.1	0.1	5.1
PLAY	5.1	0.2	0.3	0.2	12.0	0.1	0.3	5.1	0.1	5.1	0.1	5.1	0.1	0.1	0.1	5.1	5.0	5.1	5.1	0.1	5.1
REC	5.1	0.2	0.1	0.1	0.3	5.1	5.0	0.1	0.1	5.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	5.1	0.1	5.1
F.F	5.1	0.2	0.2	0.2	12.0	5.1	5.0	5.1	0.1	0.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	5.1	0.1	5.1
REW	5.1	0.2	0.1	0.2	12.0	5.1	5.0	5.1	0.1	0.1	0.1	5.1	0.1	0.1	0.1	5.1	5.1	5.1	0.1	0.1	5.1
REF. NO.		IC6001																			
MODE		61	62	63	64																
STOP	0.2	2.2	2.3	5.1																	
PLAY	0.2	2.2	2.3	5.1																	
REC	0.2	2.2	2.3	5.1																	
F.F	0.7	2.2	2.3	5.1																	
REW	0.7	2.2	2.3	5.1																	
REF. NO.		IC6002																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	5.1	5.1	0.1	0	0.1	5.1	5.0	0	0.1	0.6	0.1	0	5.0	0	5.1	5.1					
PLAY	5.1	5.1	0	0	0	5.1	5.0	0	0.2	0.6	0.2	0	5.0	0	5.1	5.1					
REC	5.1	5.1	0	4.1	0.1	5.1	5.0	0	0.2	0.6	0.2	0	5.0	0	5.1	5.1					
F.F	5.1	5.1	0	0	0.1	5.1	5.0	0	0.1	0.6	0.1	0	5.0	0	5.1	5.1					
REW	5.1	5.1	0	0	0.1	5.1	5.0	0	0.1	0.6	0.1	0	5.0	0	5.1	5.1					
REF. NO.		IC6003																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	5.1	5.1	0.1	5.1	5.0	0	0.1	0	0.1	0	0.1	5.1	5.1	0.1	5.1	5.1					
PLAY	5.1	0	0	0	5.0	5.1	0.2	0	0	0	0	5.1	0	0	5.1	5.1					
REC	5.1	0	0.1	0	5.0	5.1	0.2	0	0	0	0.1	5.1	0	0	5.1	5.1					
F.F	5.1	5.1	0.1	5.1	5.0	0	0.1	0	0.1	0	0.1	5.1	0	0	5.1	5.1					
REW	5.1	5.1	0.1	5.1	5.0	0	0.1	0	0.1	0	0.1	5.1	0	0	5.1	5.1					
REF. NO.		IC6004										IC6005									
MODE		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
STOP	0	0.5	0.9	10.9	0	0	12.0	11.9	0.9	0.5	0	0.5	0.9	10.9	0	0	12.0	11.9	0.9	0.5	
PLAY	0	0.5	0.9	10.9	0	0	12.0	11.1	0.9	0.5	0	0.5	0.9	10.9	0.1	0.1	12.0	11.1	0.9	0.5	
REC	0	0.5	0.9	10.9	0	0	12.0	11.1	0.9	0.5	0	0.5	0.9	10.9	0.1	0.1	12.0	11.1	0.9	0.5	
F.F	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	0	0.5	0.9	10.9	0	0.1	12.0	11.2	0.9	0.5	
REW	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	0	0.5	0.9	10.9	0	0	12.0	11.2	0.9	0.5	
REF. NO.		IC6006																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0.1	0	0	0	0	1.9	1.9	5.1	0	0	0.1	0	0	1.0	12.0	0	12.0				
PLAY	0.1	0.1	5.1	0.1	2.2	2.2	5.1	4.1	4.3	3.9	0	2.6	3.8	12.0	0	12.0					
REC	0.1	0.1	5.1	0.1	2.0	2.0	5.1	4.1	4.3	3.9	0	2.6	3.8	12.0	0	12.0					
F.F	0.1	5.1	0	0	0.2	0.2	0	7.7	7.9	7.2	0	0.3	1.0	12.0	0	12.0					
REW	0.1	5.1	0	0	0.2	0.2	0	7.7	7.9	7.2	0	0.3	1.0	12.0	0	12.0					
REF. NO.		IC6007										IC6008									
MODE		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8	9	10
STOP	0.3	0	0	0	0	0	0.1	0	11.9			0	0	0	0	0	0	0	0	0	0
PLAY	4.9	4.1	4.1	0	0.2	0.2	1.9	11.0				0.2	0.2	3.0	0.9	0.3	3.1	0.3	2.4	3.0	3.1
REC	4.9	4.1	4.1	0	0.2	0.2	1.9	11.0				0.2	0.2	3.0	0.9	0.3	3.0	0.3	2.3	3.0	3.0
F.F	8.4	7.7	7.7	0	0.2	0.1	9.9	11.2				0.1	0.1	7.7	0.9	0.2	7.7	0.2	7.0	7.7	7.7
REW	8.4	7.7	7.7	0	0.2	0.1	9.9	11.2				0.1	0.9	0.2	0.1	7.7	7.0	7.7	7.7	0.2	7.7

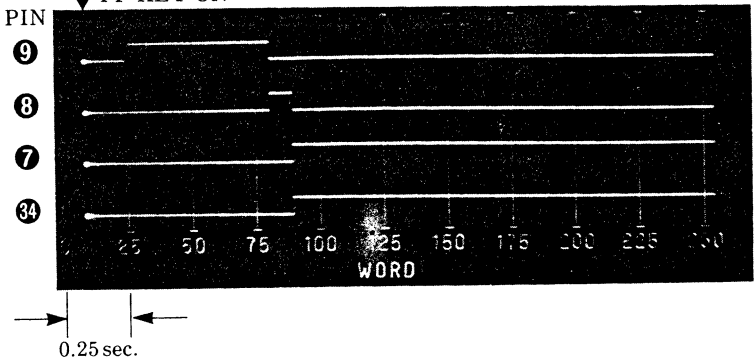
MICROPROSSOR (IC6001: MN15342VGD) MODE BY MODE TIMING CHART

1. SCAN PULSES



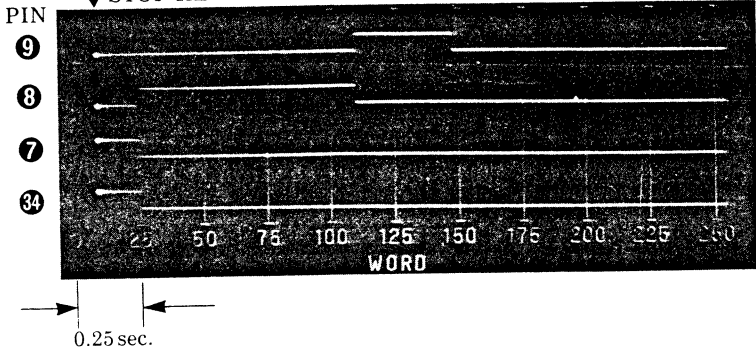
2. STOP → FF

FF KEY ON



3. FF → STOP

STOP KEY ON



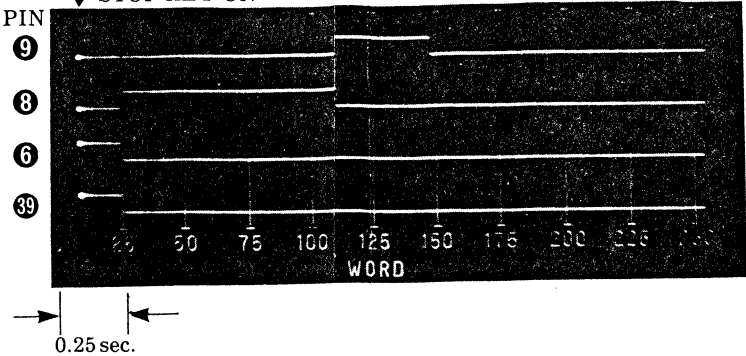
4. STOP → REW

REW KEY ON



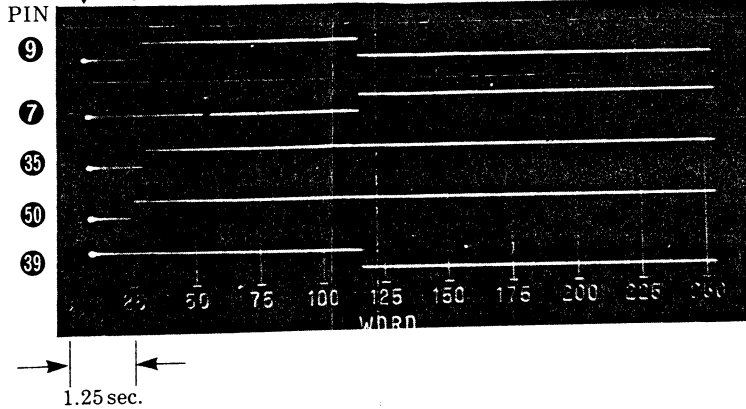
5. REW → STOP

STOP KEY ON



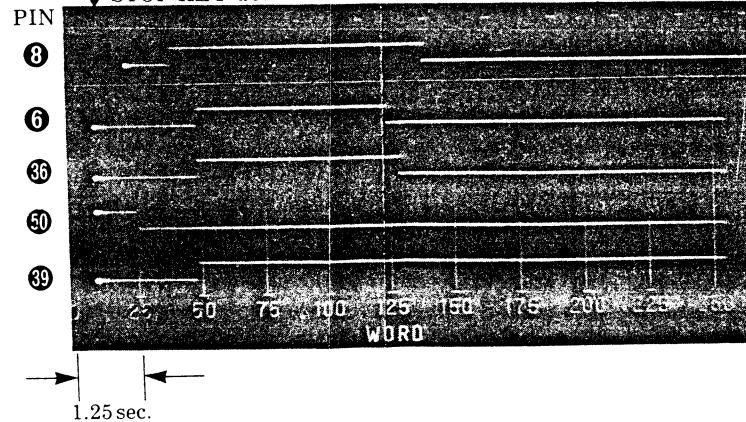
6. STOP → PLAY

PLAY KEY ON



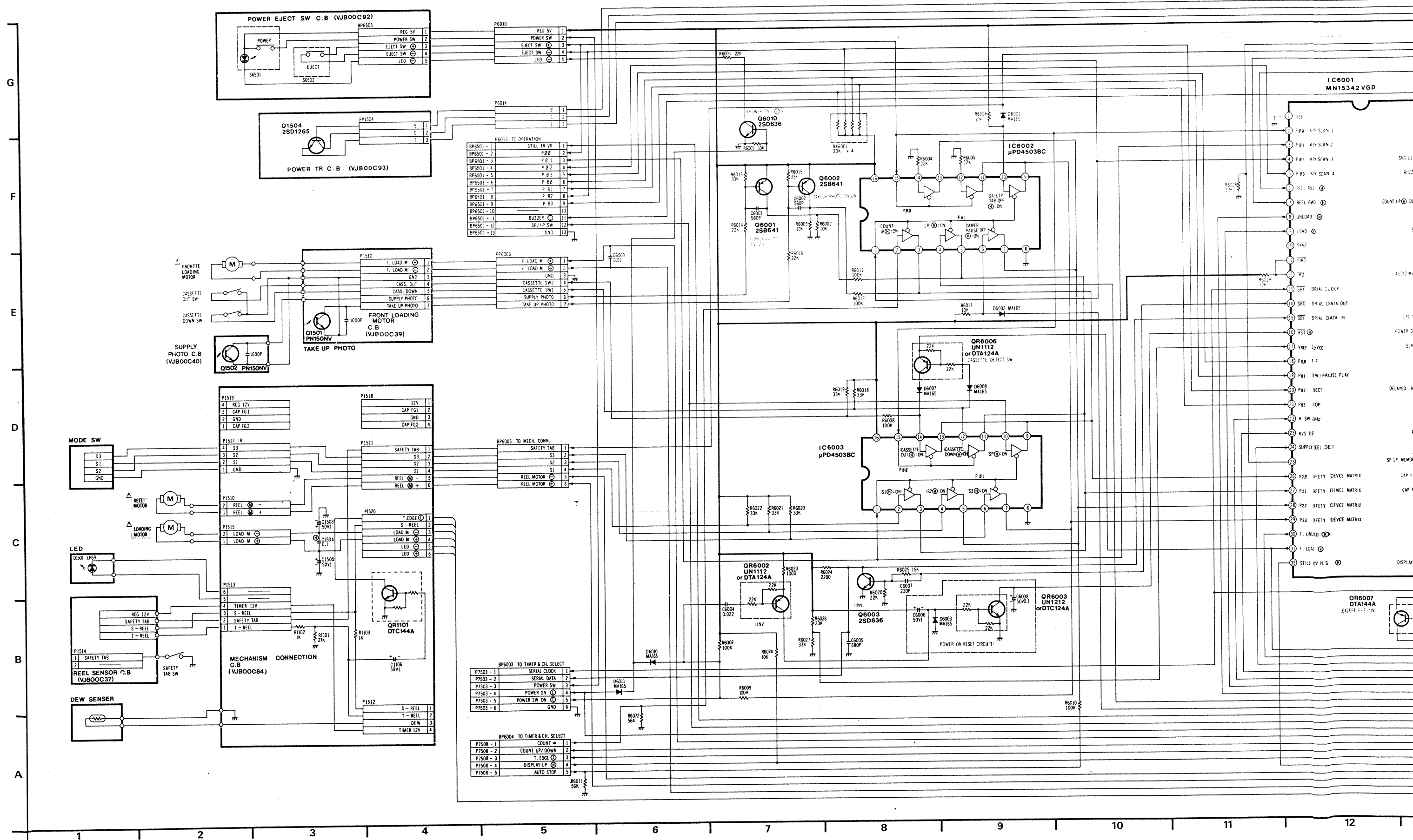
7. PLAY → STOP

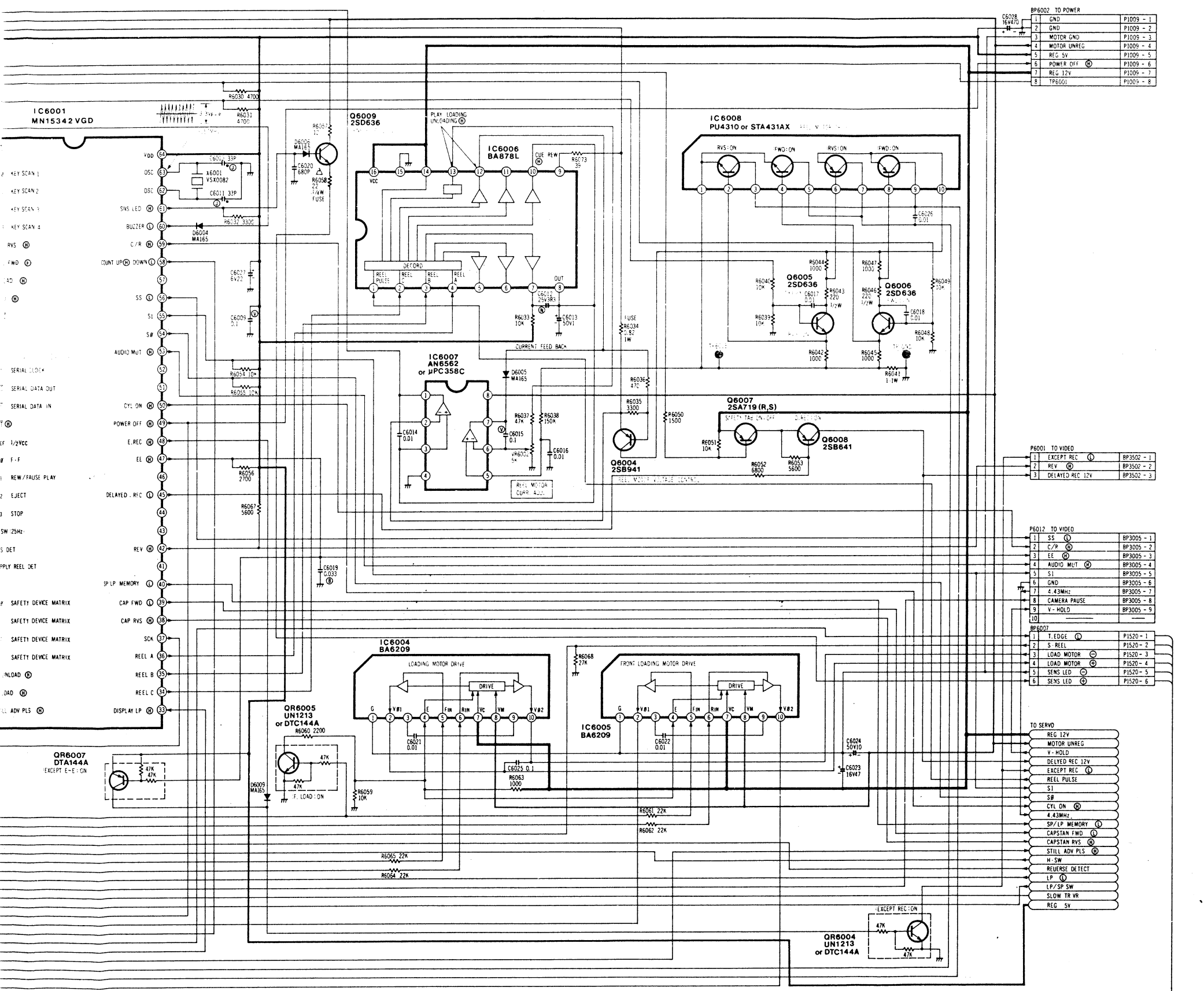
STOP KEY ON



SYSTEM CONTROL SCHEMATIC	
Transistor	
Q1501	E-3
Q1502	E-2
Q1504	F-3
Q6001	F-7
Q6002	F-7
Q6003	C-8
Q6004	E-16
Q6005	E-17
Q6006	E-18
Q6007	E-17
Q6008	E-17
Q6009	G-14
Q6010	G-7
Transistor & Resistor	
QR1101	B-4
QR6002	B-7
QR6003	B-9
QR6004	A-18
QR6005	B-14
QR6006	D-8
QR6007	B-13
Integrated Circuit	
IC6001	G-12
IC6002	F-9
IC6003	D-8
IC6004	C-15
IC6005	C-16
IC6006	F-15
IC6007	E-15
IC6008	G-17
Test Point	
TP6005	E-17
TP GND	E-18
Adjustment	
VR6002	D-15
Connector	
BP1504	G-4
BP6002	G-19
BP6003	B-5
BP6004	A-5
BP6005	D-5
BP6006	E-5
BP6007	C-19
BP6505	G-4
P1510	E-4
P1510	C-2
P1511	D-4
P1512	A-4
P1513	B-2
P1514	B-1
P1515	C-2
P1517	D-2
P1518	D-4
P1519	D-2
P1520	C-4
P6001	D-19
P6010	G-5
P6012	D-19
P6013	E-5
P6014	G-5

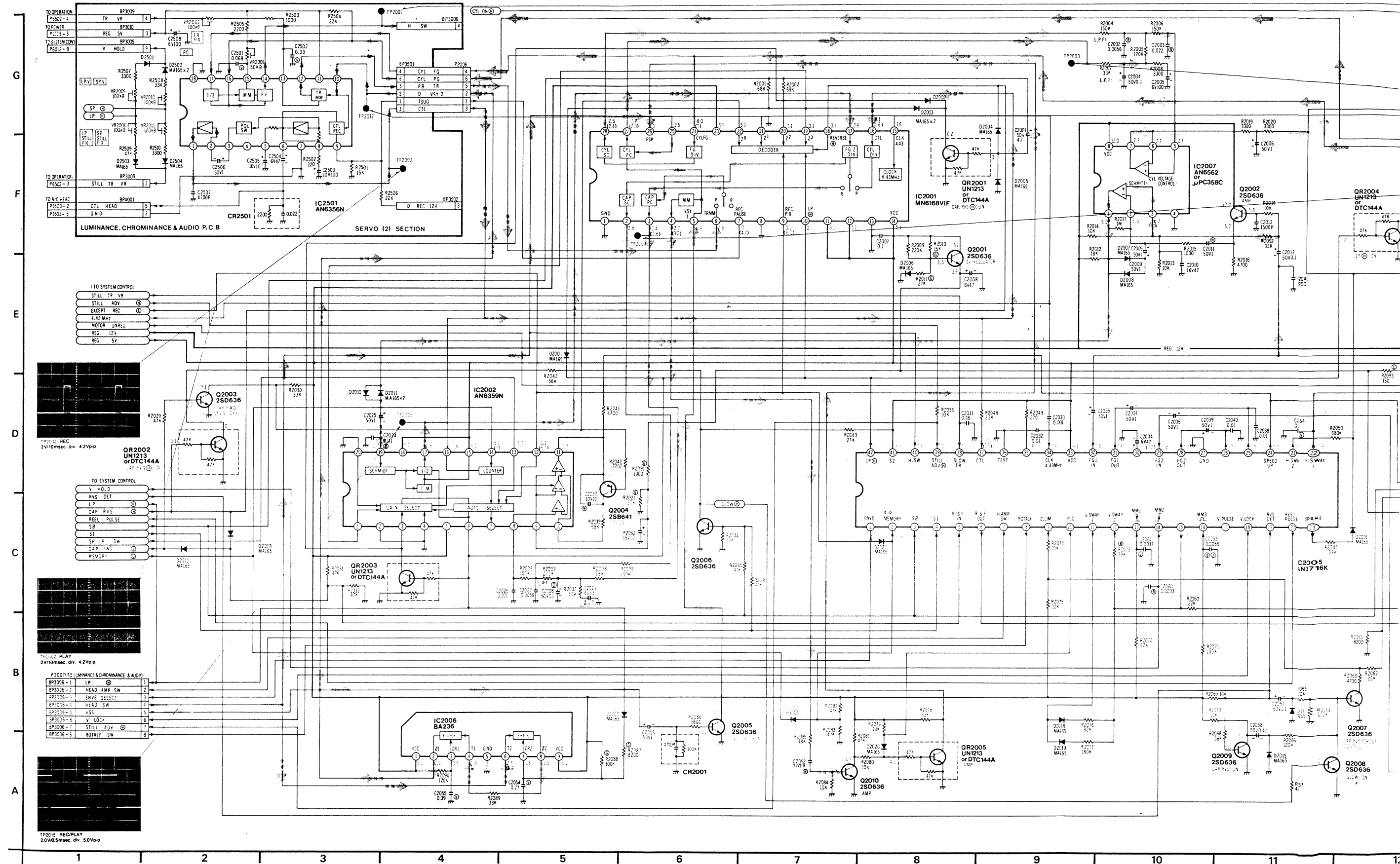
3-10. SYSTEM CONTROL SCHEMATIC DIAGRAM

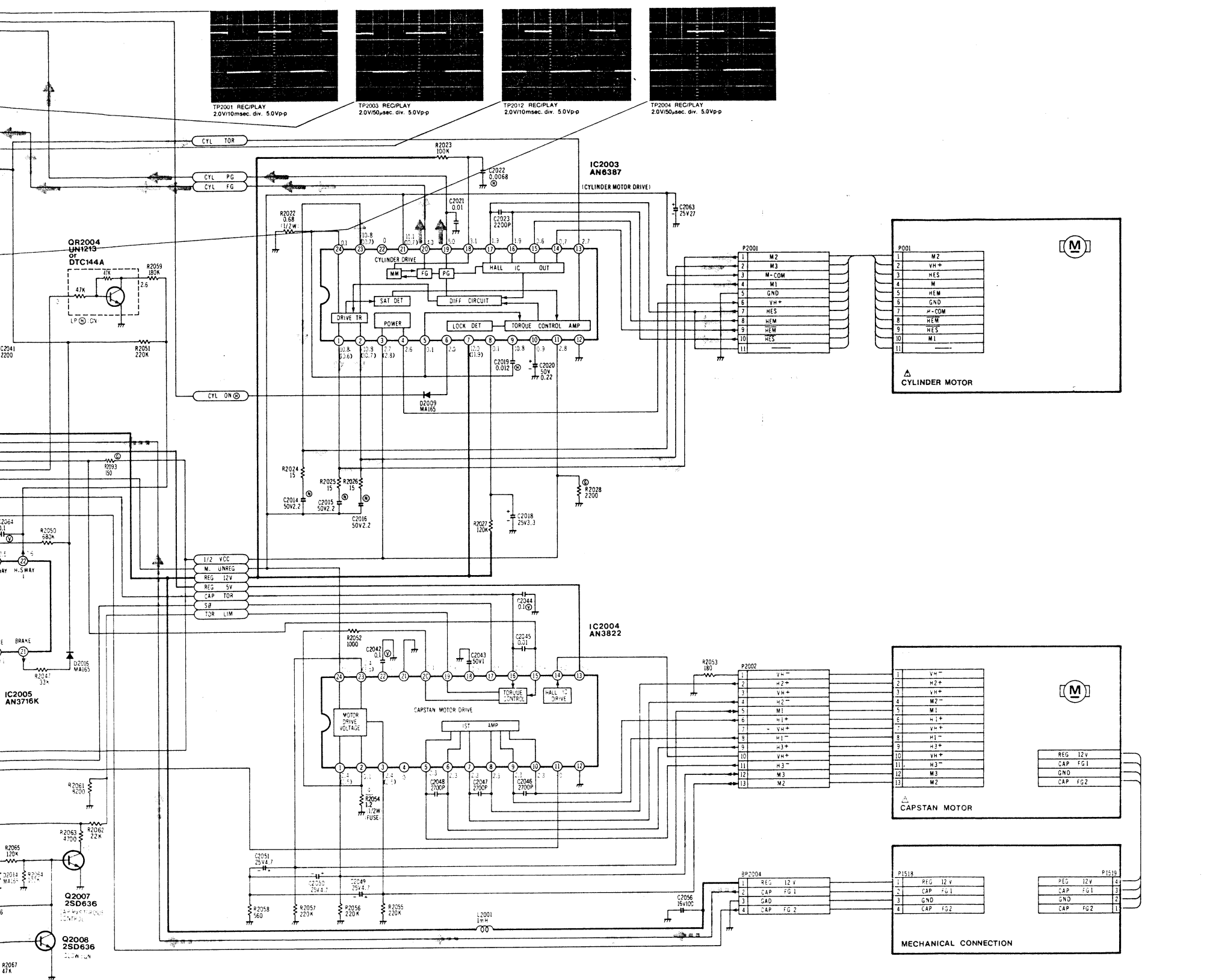




IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE
ONLY THE SAME TYPE.

3-11. SERVO SCHEMATIC DIAGRAM

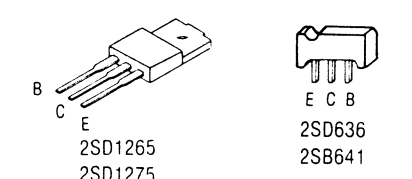
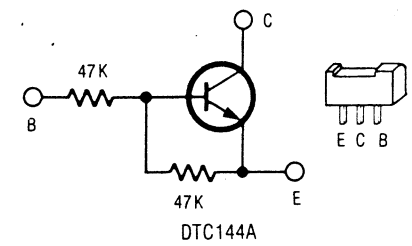
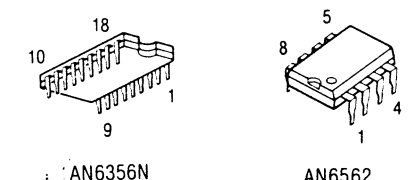
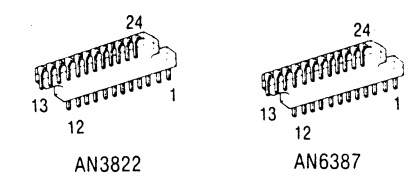
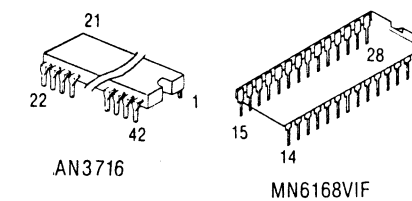




SERVO SCHEMATIC	
Transistor	
Q2001	E-8
Q2002	F-11
Q2003	D-2
Q2004	C-5
Q2005	B-6
Q2006	C-6
Q2007	B-12
Q2008	A-12
Q2009	A-11
Q2010	A-7
Transistor & Resistor	
QR2001	F-8
QR2002	D-2
QR2003	C-4
QR2004	F-12
QR2005	A-8
Integrated Circuit	
IC2001	F-7
IC2002	D-4
IC2003	F-15
IC2004	C-15
IC2005	C-11
IC2006	B-4
IC2007	F-10
IC2501	G-2
Test Point	
TP2001	G-3
TP2002	F-4
TP2003	G-9
TP2004	F-6
TP2012	G-3
TP2015	D-4
Adjustment	
VR2001	G-2
VR2002	G-2
VR2006	G-1
VR2009	G-1
VR2010	G-2
VR2011	G-2
Connector	
BP3005	G-1
BP3006	G-4
BP3008	G-1
BP3009	F-1
BP3010	G-1
BP3501	G-4
BP3502	F-4
BP4001	F-1
P001	F-17
P1518	B-17
P1519	B-19
P2001	F-16
P2002	C-16
P2004	B-16
P2006	G-4
P2007	B-1

ADDRESS INFORMATION

ICs & TRANSISTORS INFORMATION



SERVO & SYSTEM CONTROL CIRCUIT BOARD

Transistor	
Q1501	A-10
Q1502	B-12
Q1504	F-7
Q2001	E-5
Q2002	B-3
Q2003	E-6
Q2004	D-3
Q2005	E-6
Q2006	C-5
Q2007	B-5
Q2008	C-5
Q2009	B-5
Q2010	E-5
Q6001	C-8
Q6002	C-8
Q6003	E-8
Q6004	E-7
Q6005	E-8
Q6006	E-8
Q6007	E-6
Q6008	E-6
Q6009	B-7
Q6010	E-8

Transistor & Resistor	
QR1101	E-11
QR2001	C-5
QR2002	E-6
QR2003	E-6
QR2004	B-4
QR2005	D-5
QR6002	D-8
QR6003	D-8
QR6004	E-6
QR6005	B-9
QR6006	C-9
QR6007	E-6

Integrated Circuit	
IC1501	C-12
IC1502	C-10
IC2001	D-4
IC2002	D-3
IC2003	C-3
IC2004	D-3
IC2005	C-4
IC2006	D-5
IC2007	C-3
IC6001	C-7
IC6002	C-8
IC6003	D-8
IC6004	B-8
IC6005	B-8
IC6006	B-7
IC6007	E-7
IC6008	E-8

Test Point	
TP2003	E-4
TP2004	E-4
TP2015	E-3
TP6005	E-7
TP GND	E-7
Adjustment	
VR6002	E-8

ADDRESS INFORMATION

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P2006 (TO SERVO 2)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2007 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6004 (TO TIMER)

1	COUNT R
2	COUNT UP/DOWN
3	T. EDGE
4	DISPLAY LP
5	AUTIC STOP

P2001 (TO SERVO 1)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2002 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6001 (TO A.C. HEAD)

1	A.HEAD W
2	A.HEAD R
3	GND
4	A.ERASE
5	CTL HEAD

P2003 (TO SERVO 3)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2004 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6002 (TO TIMER)

1	COUNT R
2	COUNT UP/DOWN
3	T. EDGE
4	DISPLAY LP
5	AUTIC STOP

P2005 (TO SERVO 4)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2006 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6003 (TO TIMER)

1	COUNT R
2	COUNT UP/DOWN
3	T. EDGE
4	DISPLAY LP
5	AUTIC STOP

P2007 (TO SERVO 5)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2008 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6004 (TO TIMER)

1	COUNT R
2	COUNT UP/DOWN
3	T. EDGE
4	DISPLAY LP
5	AUTIC STOP

P2009 (TO SERVO 6)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2010 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6005 (TO TIMER)

1	COUNT R
2	COUNT UP/DOWN
3	T. EDGE
4	DISPLAY LP
5	AUTIC STOP

P2011 (TO SERVO 7)

1	T. SUG
2	D-VSY 2
3	CTL
4	CYL FG
5	PB TR
6	CYL PG

P2012 (TO LUMINANCE & CHROMANCE)

1	EXCEPT REC
2	REV
3	DELAYED REC 12V

BP6006 (TO TIMER)

1	COUNT R
2	COUNT UP/DOWN
3	T. EDGE
4	DISPLAY LP
5	AUTIC STOP

SERVO (2) Section (VEP03214A/B)

MECHANISM CONNECTION C. BOARD (VJB00C)

P1512 (TO TIMER)

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1513

1	T-REEL
2	SAFETY TAP
3	S-REEL
4	TIMER 12V
5	LED
6	LED

P1514

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1515

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1516

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1517

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1518

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1519

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1520

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1521

1	S-REEL
2	T-REEL
3	DEFW
4	TIMER 12V

P1522

1	S-REEL
2	T-REEL

[illegible]

SERV

REF. N°
MODE
PLAY
REC
REF. N°
MODE
PLAY
REC
REF. N°
MODE
PLAY
REC

SER

REF. N
MODE
PLAY
REC

SERVO ICs VOLTAGE CHART (LP Mode)

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	2.6	2.6	2.7	4.9	2.5	0	0	0.1	4.1	5.1	5.1	0	5.1	1.6	0.1	2.6	0.1	0.1	0
REC	0	2.6	2.6	3.0	4.9	2.5	4.7	0	5.0	0	5.1	5.1	0	5.1	1.6	0.6	2.6	0.1	0.1	0
REF. NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28												
PLAY	0	5.1	5.1	4.0	2.5	0	2.9	2.6												
REC	0	5.1	5.1	4.0	2.5	0	3.0	2.4												
REF. NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0.1	0	0	0	5.1	4.1	5.0	2.8	2.7	2.7	2.7	0.1	0	5.1	5.1	0.1	2.6	5.1	2.7	0
REC	0.1	0	0	0	5.1	4.1	5.0	2.8	2.7	2.7	2.7	0	0	5.1	5.1	0.6	2.6	5.1	2.7	0
REF. NO.	IC2003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	10.8	10.8	2.8	2.6	0.1	2.0	12.0	0.1	10.9	0.9	2.8	0	2.7	0.7	0.6	1.9	1.9	3.1	5.0	4.0
REC	10.8	10.8	2.8	2.6	0.1	2.0	12.0	0.1	10.8	0.9	2.8	0	2.7	0.7	0.6	1.9	1.9	3.1	5.0	4.0
REF. NO.	IC2003																			
MODE	21	22	23	24																
PLAY	11.1	0	10.8	0.1																
REC	11.1	0	10.8	0.1																
REF. NO.	IC2004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	2.2	0.1	2.2	0	2.3	2.3	2.3	2.3	2.3	2.3	0	0	5.1	3.2	2.9	2.7	0.1	0.5	0.8	0.1
REC	2.2	0.1	2.2	0	2.3	2.3	2.3	2.3	2.3	2.3	0	0	5.1	3.2	2.9	2.7	0.1	0.5	0.8	0.1
REF. NO.	IC2004																			
MODE	21	22	23	24																
PLAY	0	0.5	2.2	11.0																
REC	0	0.5	2.2	11.0																
REF. NO.	IC2005																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	2.5	0.1	5.1	0.6	0	4.1	2.6	3.0	4.6	2.5	2.8	0	0	2.8	0	5.1	0.1	0.1	0.1
REC	0	4.5	0.1	5.1	0.6	0	3.7	2.6	3.0	4.6	2.5	2.8	0	0	2.8	0	5.1	0.1	0.1	0.1
REF. NO.	IC2005																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	0.2	1.2	2.5	2.7	2.0	2.0	0	2.7	2.4	3.1	2.6	2.4	5.1	2.5	1.8	0	1.0	0	0.1	2.5
REC	0.2	1.2	2.5	2.7	2.0	2.0	0	2.7	2.4	3.1	2.6	2.4	5.1	2.5	1.8	0	1.2	0	0.1	2.5
REF. NO.	IC2005																			
MODE	41	42																		
PLAY	5.1	4.1																		
REC	5.1	4.1																		
REF. NO.	IC2006										IC2007									
MODE	1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8		
PLAY	5.1	2.0	0.5	0.2	0	2.6	0.6	0.2	5.1		6.0	6.0	6.0	0	2.7	2.7	2.7	12.0		
REC	5.1	2.0	0.5	0.2	0	2.6	0.6	0.2	5.1		6.0	6.0	6.0	0	2.8	2.8	2.8	12.0		

SERVO TRANSISTORS VOLTAGE CHART (LP Mode)

REF. NO.	Q2001			Q2002			Q2003			Q2004			Q2005			Q2006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	2.9	5.1	3.5	5.2	12.0	5.8	0	5.1	0	2.7	2.7	5.1	0	4.9	-0.1	0	0	0.6
REC	2.9	5.1	3.5	5.2	12.0	5.8	0	5.1	0	2.7	2.7	5.1	0	4.9	-0.1	0	0	0.6
REF. NO.	Q2007			Q2008			Q2009			Q2010								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
PLAY	0	3.0	0	0	0	0	0	5.1	0.1	0	4.3	0						
REC	0	3.0	0	0	0	0	0	5.1	0.1	0	4.3	0						
REF. NO.	QR2001			QR2002			QR2003			QR2004			QR2005					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
PLAY	0	0.3	0	0	0	0.1	0	0	4.2	0	0	4.1	0	0	4.1			
REC	0	0.2	0	0	0	0.1	0	0	4.1	0	0	4.1	0	0	4.1			

SERVO (2) ICs VOLTAGE CHART (LP Mode)

REF. NO.	IC2501																	
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PLAY	0.1	0.4	1.9	0.1	2.6	2.6	0	2.6	0	2.0	5.1	2.5	0.8	2.5	2.9	5.0	4.0	0
REC	0.6	-0.5	1.9	0.1	2.5	1.8	0	2.2	4.7	2.0	5.1	2.5	0.8	2.6	3.0	5.0	4.0	0

F



BP3004 (FROM DEMODULATOR)	
1	AUDIO IN
2	GND
3	VIDEO IN

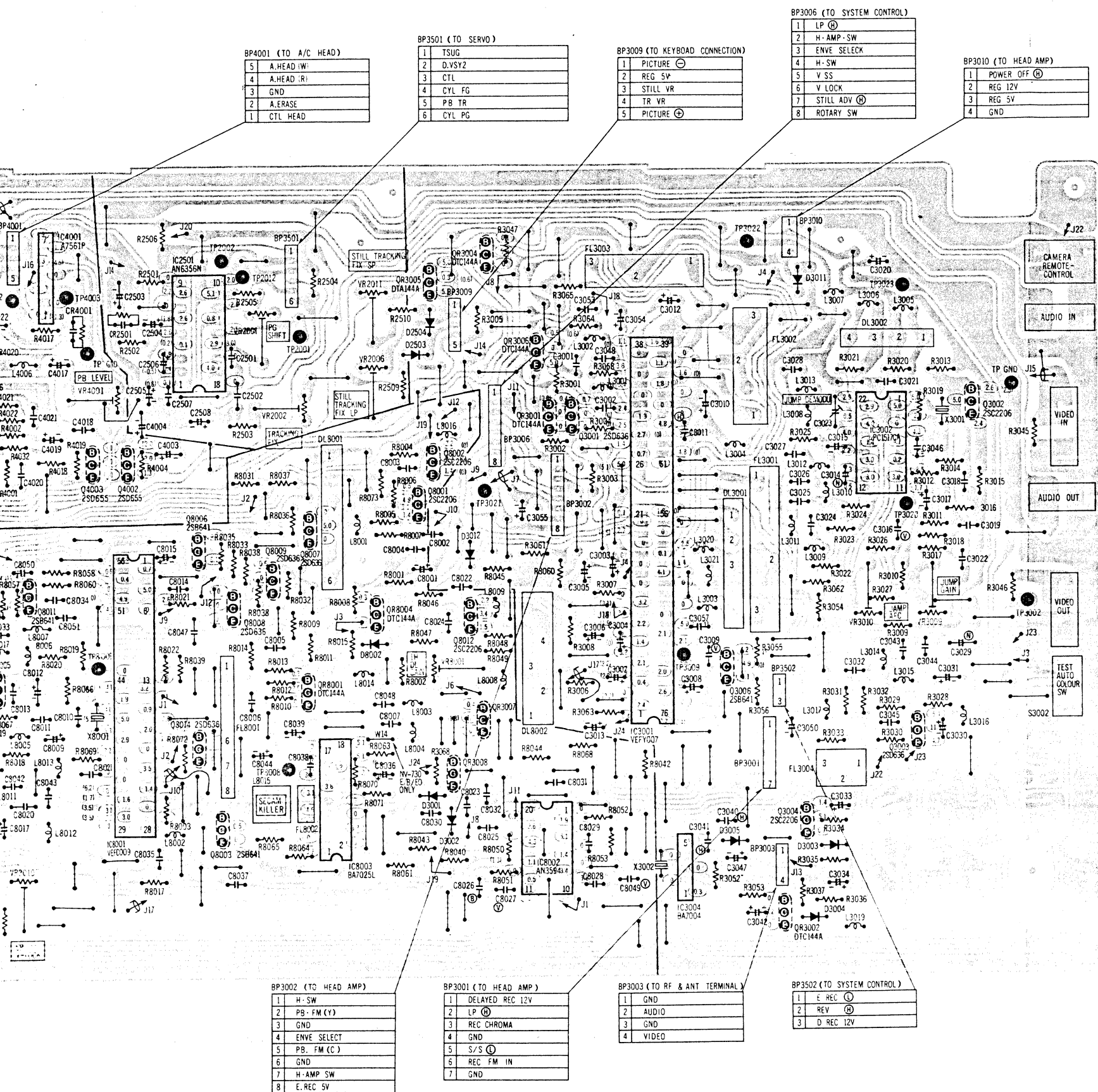
8P3008 (TO TIMER)	
1	TUNER (L)
2	EE (H)
3	CAMERA (L)

1	BUZZER
2	BUZZER

BLEEP SW. C. BOARD (VJB00C65)

1	S/S (L)
2	SD C/R (H)
3	E-E (H)
4	AUDIO MUT (H)
5	S/ TRICK P (L)
6	GND
7	4.43MHz
8	C PAUSE
9	V HOLD

Circuit Board (VEP03214A/B)



LUMINANCE ICs VOLTAGE CHART (LP Mode)

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0.4	2.4	2.1	0.4	2.8	2.1	3.2	1.4	0	2.2	2.5	3.2	0	0	—	0	0	0	2.7	0
REC	0.4	2.4	2.2	0.4	2.8	2.2	3.2	1.4	0	0	0	0.1	0	0	—	0	0	0	4.5	0

REF. NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	0.1	—	—	—	—	5.0	0.7	1.4	2.7	2.5	1.3	2.4	0	3.4	0	3.6	0	1.1	1.6	0
REC	0	—	—	—	—	5.1	0.7	1.4	0	0	0	0	0	0.3	0	0	0	0	0	0

REF. NO.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	1.1	1.6	1.8	0	0	0	4.8	3.1	—	4.8	0	—	—	—	—	0	0	0	2.5	4.1
REC	0	0	0	0	0	0	0	0	—	0	0	—	—	—	—	0	0	0	2.6	4.1

REF. NO.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
PLAY	1.4	4.1	0	—	0	0	5.0	2.1	2.1	—	2.0	2.0	2.7	2.6	0	2.6	—	—	—	—
REC	1.4	4.0	0	—	0	0	5.1	2.1	2.1	—	2.0	2.0	2.7	2.6	0	2.3	—	—	—	—

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	5.0	5.0	2.9	0	4.3	4.1	2.9	0.2	2.5	3.0	1.7	0.6	3.0	2.3	3.0	2.2	1.4	4.0	4.0	0.5
REC	5.0	5.0	2.9	0	4.3	4.1	2.9	0.2	2.5	3.0	1.7	0.6	3.0	2.3	3.0	2.2	1.4	4.0	4.0	0.5

REF. NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	2.9	2.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
REC	2.9	2.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	0	0	0	0	0	4.8	0.3	0	0	0	0	0	0	0	0	0	0	0	0
REC	0	0	0	0	0	0	4.8	5.0	0	0	0	0	0	0	0	0	0	0	0	0

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REC	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CHROMINANCE ICs VOLTAGE CHART (LP Mode)

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	5.0	0.7	0.4	5.0	2.6	0	—	—	—	—	—	—	—	2.6	3.2	1.1	0.8	2.6	2.0	1.9
REC	5.0	0.7	0.4	5.0	2.6	0	—	—	—	—	—	—	—	2.6	3.2	1.1	0.9	2.8	2.1	2.4

REF. NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	2.6	3.5	0	1.4	0	0	0	0	0	3.0	3.0	1.7	0	0	0	0	3.2	2.9	3.3	5.0
REC	2.6	3.6	0	0	0	0	0	0	0	3.5	3.5	1.7	6.2	0	0	0	3.2	2.9	3.0	5.0

REF. NO.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	4.0	1.9	4.1	0	—	—	—	—	—	—	4.3	4.9	0	0.4	0.6	4.8	—	—	—	—
REC	4.0	2.0	4.1	0	—	—	—	—	—	—	4.3	0	0	0.4	0.6	4.8	—	—	—	—

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	1.9	3.3	5.1	0	1.4	0	3.4	3.2	2.6	0	0.5	5.0	3.3	1.1	4.3	0	2.6	4.1	3.3
REC	0	1.9	3.3	5.1	0	1.4	0	3.4	3.2	2.6	0	0.5	5.0	3.3	1.1	4.3	0	2.6	3.7	3.3

REF. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	3.7	0	0	3.7	4.2	0	4.5	0	3.1	0	3.6	0	3.6	0	0	0.7	5.1	5.1	—	—
REC	3.7	1.2	0	3.7	4.3	0	4.6	0	3.1	0	3.6	0	3.6	0	0	0.7	5.1	5.1	—	—

CHROMINANCE TRANSISTORS VOLTAGE CHART (LP Mode)

REF. NO.	Q8001	Q8002	Q8003	Q8004	Q8005	Q8006
MODE	E	C	B	E	C	B
PLAY	1.4	4.9	0.5	1.4	4.9	2.2
REC	0	0	0.5	0	0	1.5

REF. NO.	Q8007	Q8008	Q8009	Q8010	Q8011	Q8012
MODE	E	C	B	E	C	B
PLAY	0	5.0	0	0	0	0
REC	0	5.1	0	0	0	0

REF. NO.	Q8013	Q8014	Q8015	Q8016	Q8017	Q8018
MODE	E	C	B	E	C	B
PLAY	2.1	3.2	2.7	0	2.6	0
REC	0	0	0	0	2.6	0

REF. NO.	Q8019	Q8020	Q8021	Q8022	Q8023	Q8024
MODE	E	C	B	E	C	B
PLAY	0	2.6	0.3	0	0.3	0
REC	0	2.6	0.3	0	0.3	0

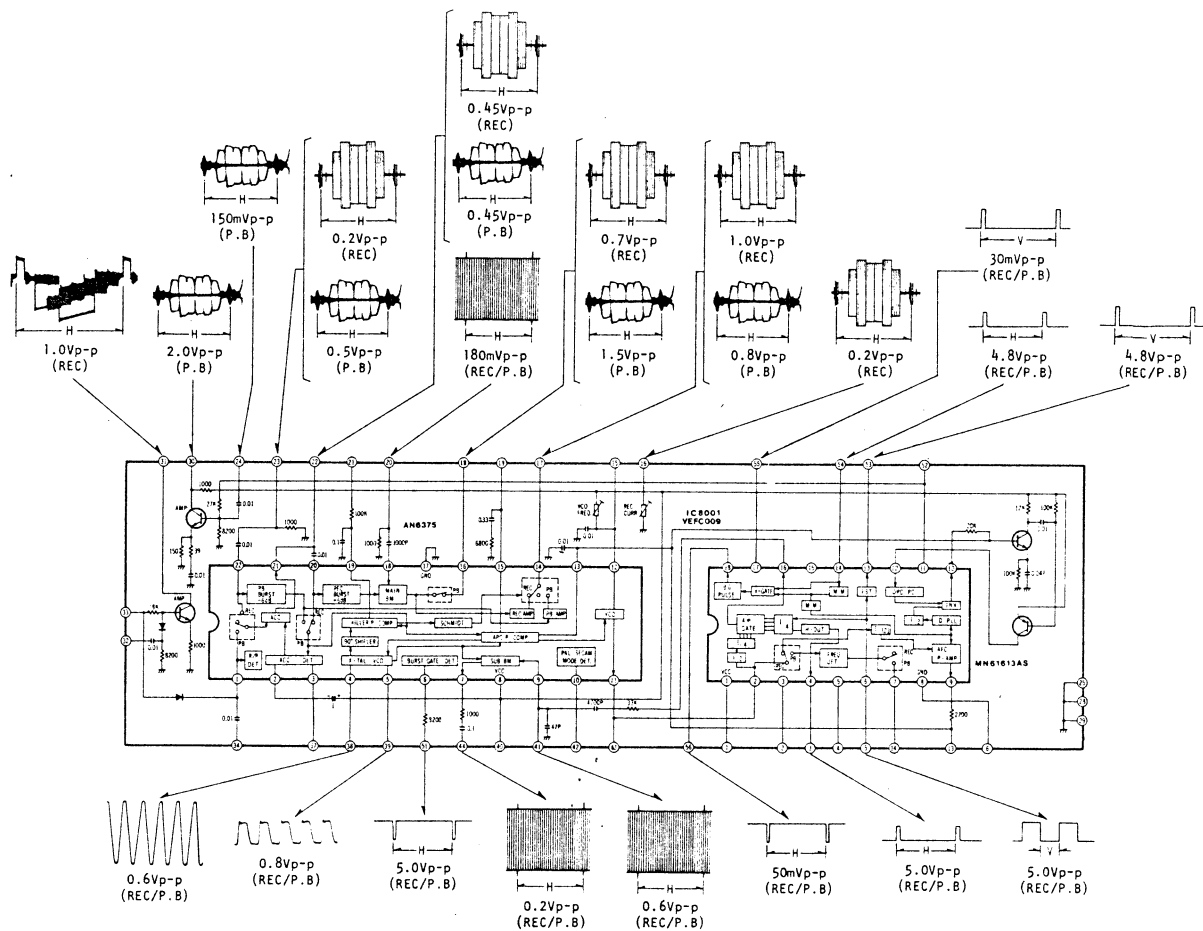
LUMINANCE TRANSISTORS VOLTAGE CHART (LP Mode)

REF. NO.	Q3001	Q3002	Q3003	Q3004	Q3005	Q3006
MODE	E	C	B	E	C	B
PLAY	0	0.4	0	2.4	5.0	2.6
REC	0	0.4	0	2.4	5.0	2.6

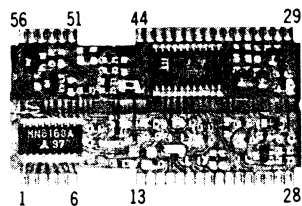
REF. NO.	Q3007	Q3008	Q3009	Q3010	Q3011	Q3012
MODE	E	C	B	E	C	B
PLAY	0	0	5.0	0	3.2	0.1
REC	0	0	5.0	0	3.2	0

REF. NO.	Q3013	Q3014	Q3015	Q3016	Q3017	Q3018
MODE	E	C	B	E	C	B
PLAY	0	0	5.0	0	3.2	0.1
REC	0	0	5.0	0	3.2	0

REF. NO.	Q3019	Q3020	Q3021	Q3022	Q3023	Q3024
MODE	E	C	B	E	C	B
PLAY	0	0	5.0	0	3.2	0.1
REC	0	0	5.0	0	3.2	0



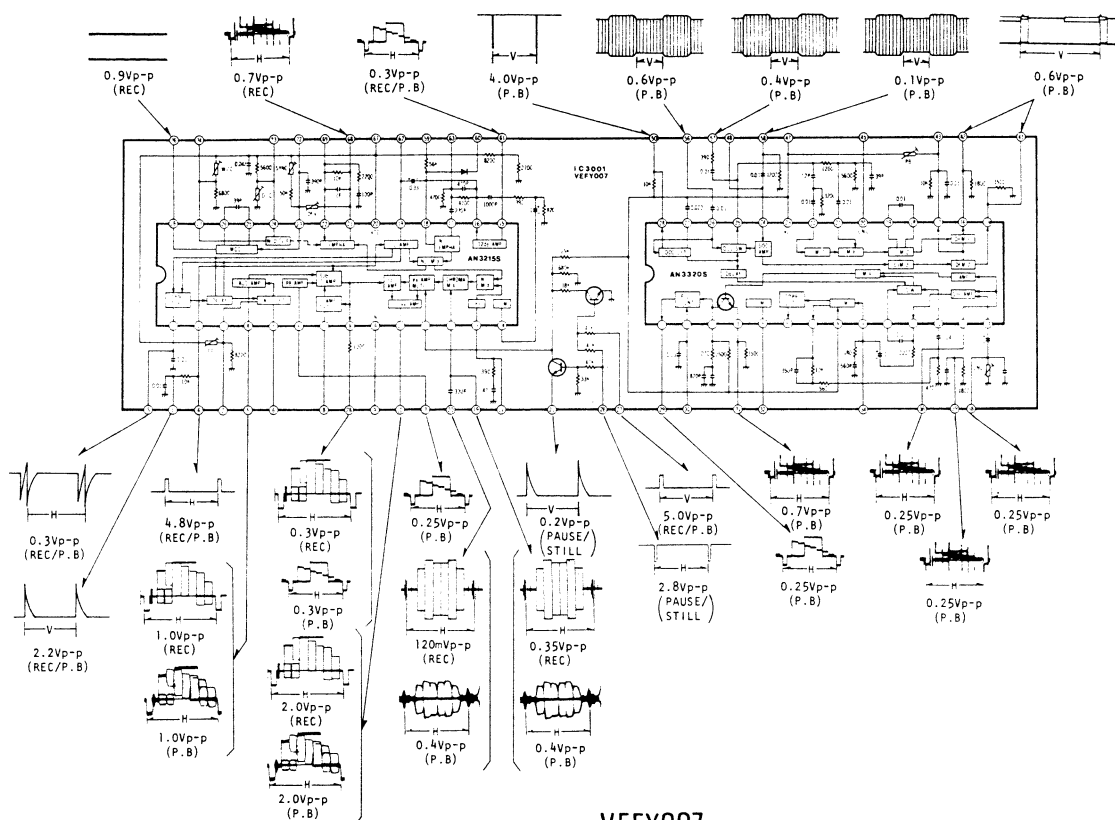
VEFC009



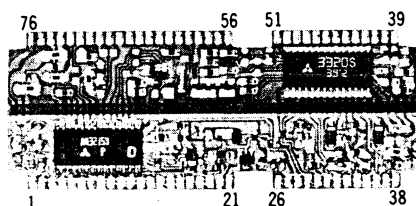
LUMINANCE & CHROMINANCE SCHEMATIC	
Transistor	
Q3001	D-8
Q3002	G-21
Q3003	B-8
Q3004	B-7
Q3005	B-6
Q3006	B-3
Q8001	F-11
Q8002	F-11
Q8003	F-15
Q8004	C-16
Q8005	B-12
Q8006	F-19
Q8007	F-19
Q8008	F-19
Q8009	F-18
Q8010	B-14
Q8011	B-13
Q8012	E-18
Q8013	F-17
Q8014	E-10
Transistor & Resistor	
QR3001	D-8
QR3002	B-6
QR3003	B-6
QR3004	B-11
QR3005	B-11
QR3006	C-6
QR3007	C-3
QR3008	F-4
QR8001	F-10
QR8002	E-16
QR8003	F-18
QR8004	F-18
QR8005	D-21

ADDRESS INFORMATION

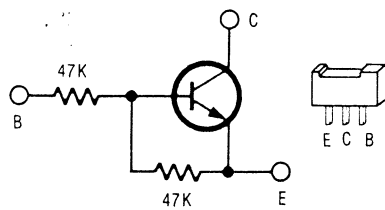
Integrated Circuit	
IC3001	E-6
IC3002	F-21
IC3003	B-4
IC3004	B-3
IC8001	D-11
IC8002	D-19
IC8003	D-22
Test Point	
TP3002	A-8
TP3009	F-4
TP3020	F-20
TP3021	E-24
TP3022	A-24
TP3023	B-2
TP8005	B-12
TP8006	C-14
TP8008	B-22
TP GND	E-15
TP GND	F-20
Adjustment	
VR3009	F-21
VR3010	F-20
VR8001	E-18
C3023	E-21
L8015	B-22
Connector	
BP3001	G-24
BP3002	G-24
BP3003	F-1
BP3004	F-1
BP3005	D-24
BP3006	E-24
BP3008	B-1
BP3009	C-24
BP3010	F-1
BP3013	A-1
BP3502	G-1



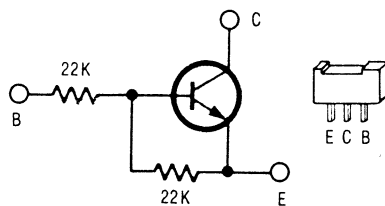
VEFY007



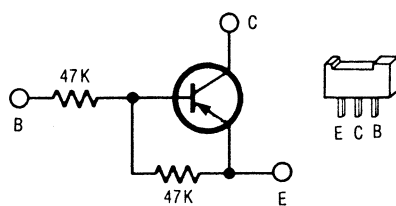
ICs & TRANSISTORS INFORMATION



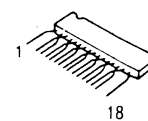
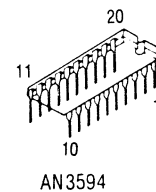
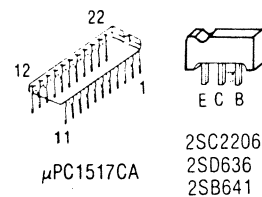
DTC144A



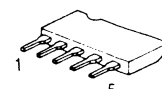
DTC124A



DTA144A



BA7025L



BA7004

MAIN [Luminance & Chrominance, Audio, Servo (2)] CIRCUIT BOARD

Transistor

Q3001	D-7
Q3002	D-9
Q3003	C-8
Q3004	B-8
Q3005	B-8
Q3006	C-7
Q4001	E-2
Q4002	D-4
Q4003	D-4
Q4004	E-3
Q4005	D-3
Q4006	D-4
Q8001	D-6
Q8002	D-6
Q8003	B-5
Q8004	C-3
Q8005	C-4
Q8006	C-5
Q8007	C-5
Q8008	C-5
Q8009	C-5
Q8010	C-4
Q8011	C-4
Q8012	C-6
Q8013	B-3
Q8014	B-5

Transistor & Resistor

QR3001	D-6
QR3002	B-8
QR3003	B-8
QR3004	E-6
QR3005	E-6
QR3006	D-6
QR3007	B-6
QR3008	B-6
QR4002	D-3
QR8001	C-5
QR8002	B-3
QR8003	C-3
QR8004	C-6
QR8005	B-3

Integrated Circuit

IC2501	E-5
IC3001	C-7
IC3002	D-8
IC3003	B-9
IC3004	B-7
IC4001	E-4
IC4002	E-3
IC8001	B-4
IC8002	B-6
IC8003	B-5

Test Point

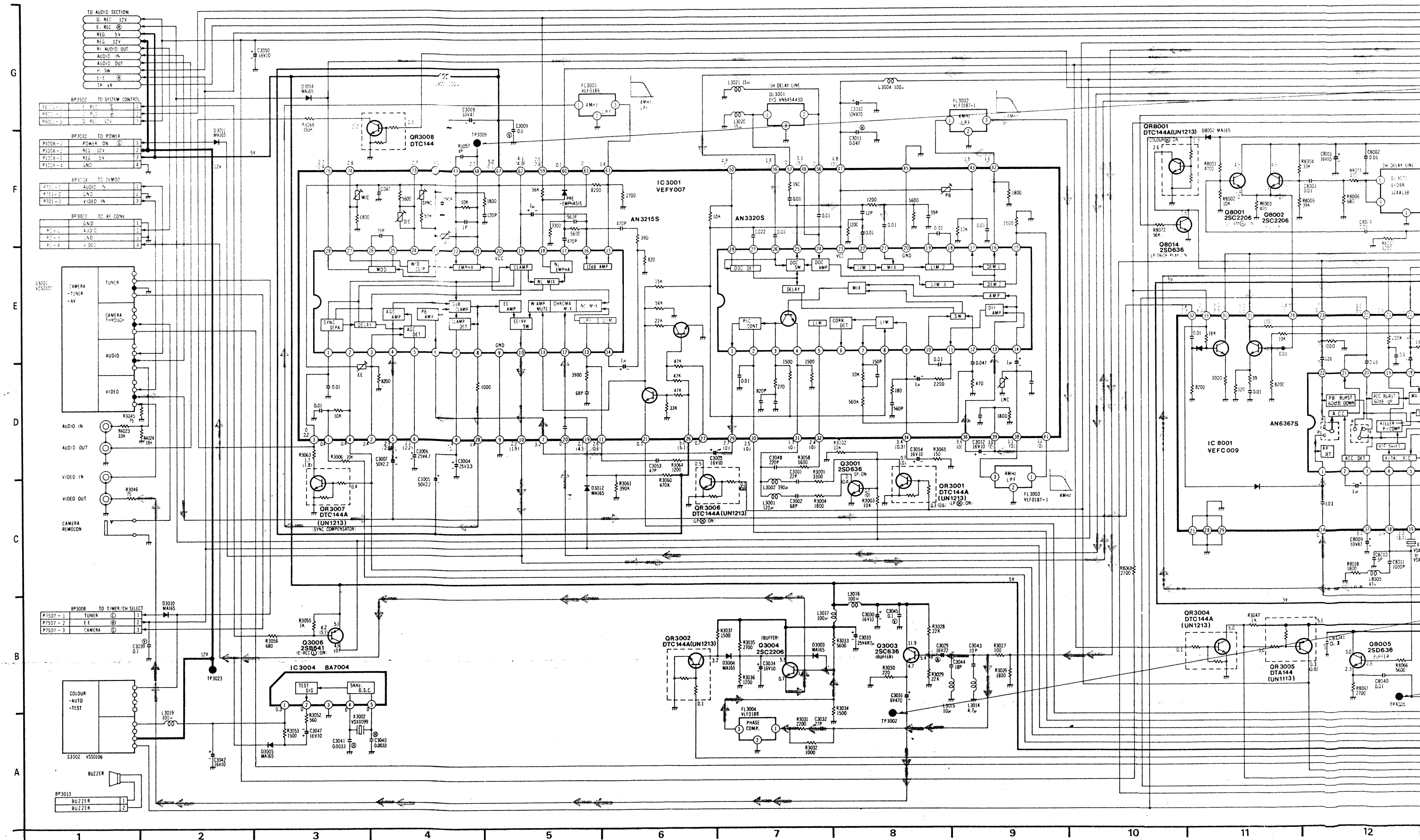
TP2001	E-5
TP2002	E-5
TP2012	E-5
TP3002	C-9
TP3009	C-7
TP3020	D-8
TP3021	D-6
TP3022	E-7
TP3023	E-8
TP4001	D-3
TP4002	E-4
TP4003	E-4
TP8005	C-3
TP8006	C-4
TP8008	B-5
TP GND	E-4
TP GND	C-3
TP GND	D-9

Adjustment

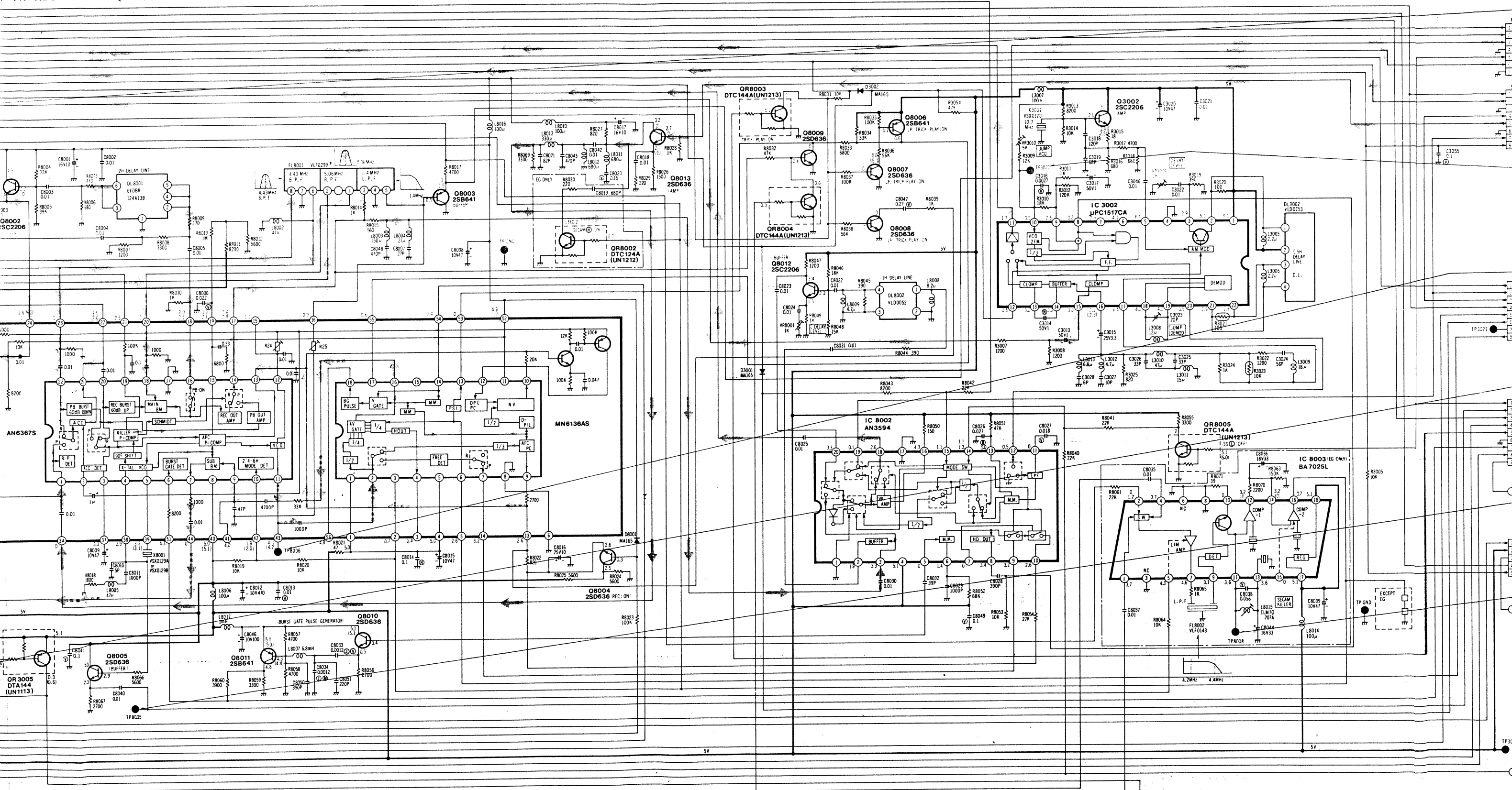
VR2001	E-5
VR2002	D-5
VR2006	D-6
VR2009	B-4
VR2010	B-4
VR2011	E-6
VR3009	C-8
VR3010	C-8
VR4001	D-4
VR4002	E-3
VR8001	C-6
C3023	D-8
L8015	B-5

3-14. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE



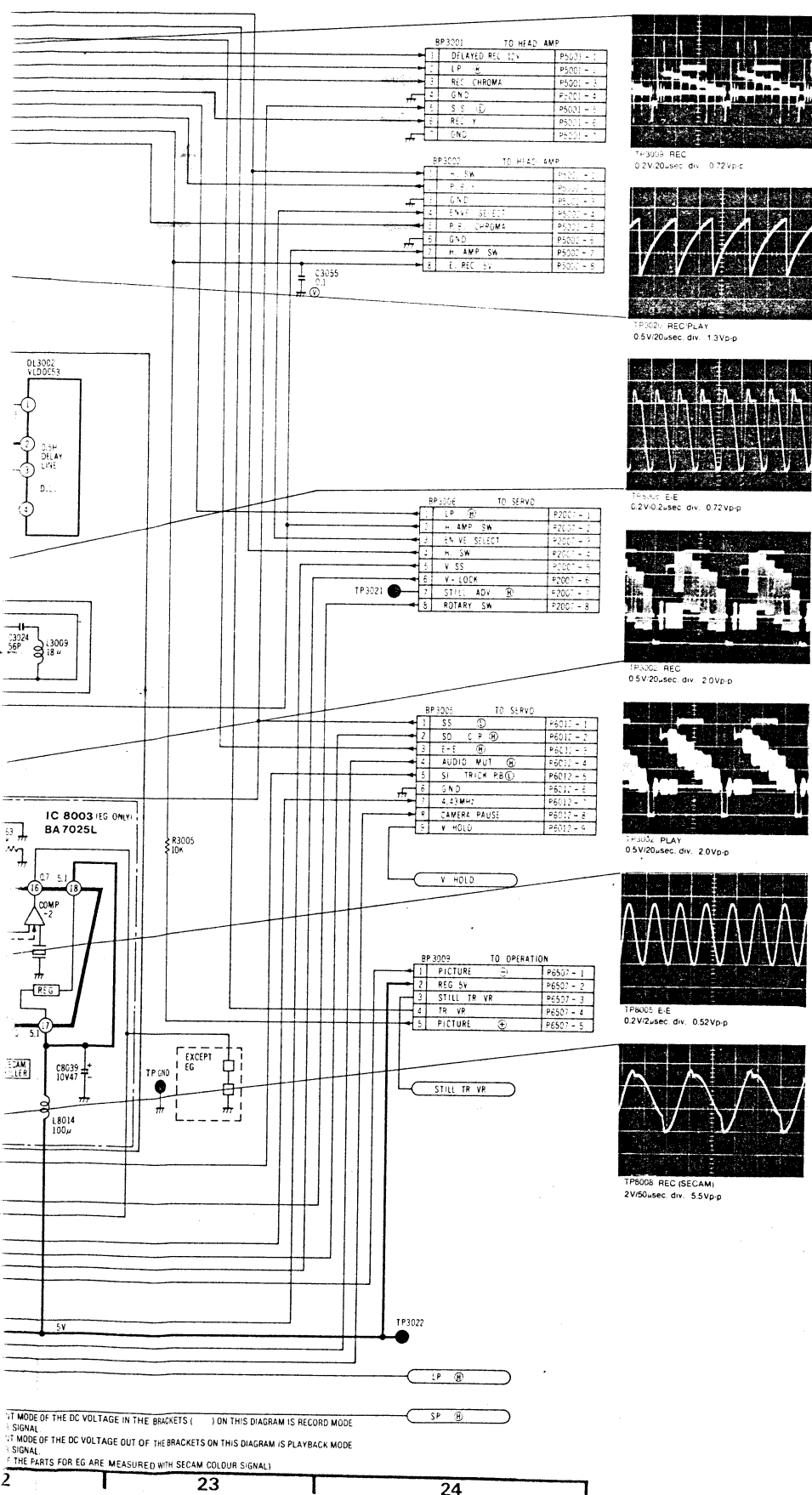
IN REC MODE ← MAIN SIGNAL PATH IN PLAYBACK MODE ← 5.06MHz PHASE ROTATIONAL IN REC MODE ← 5.06MHz PHASE ROTATIONAL IN PLAYBACK MODE



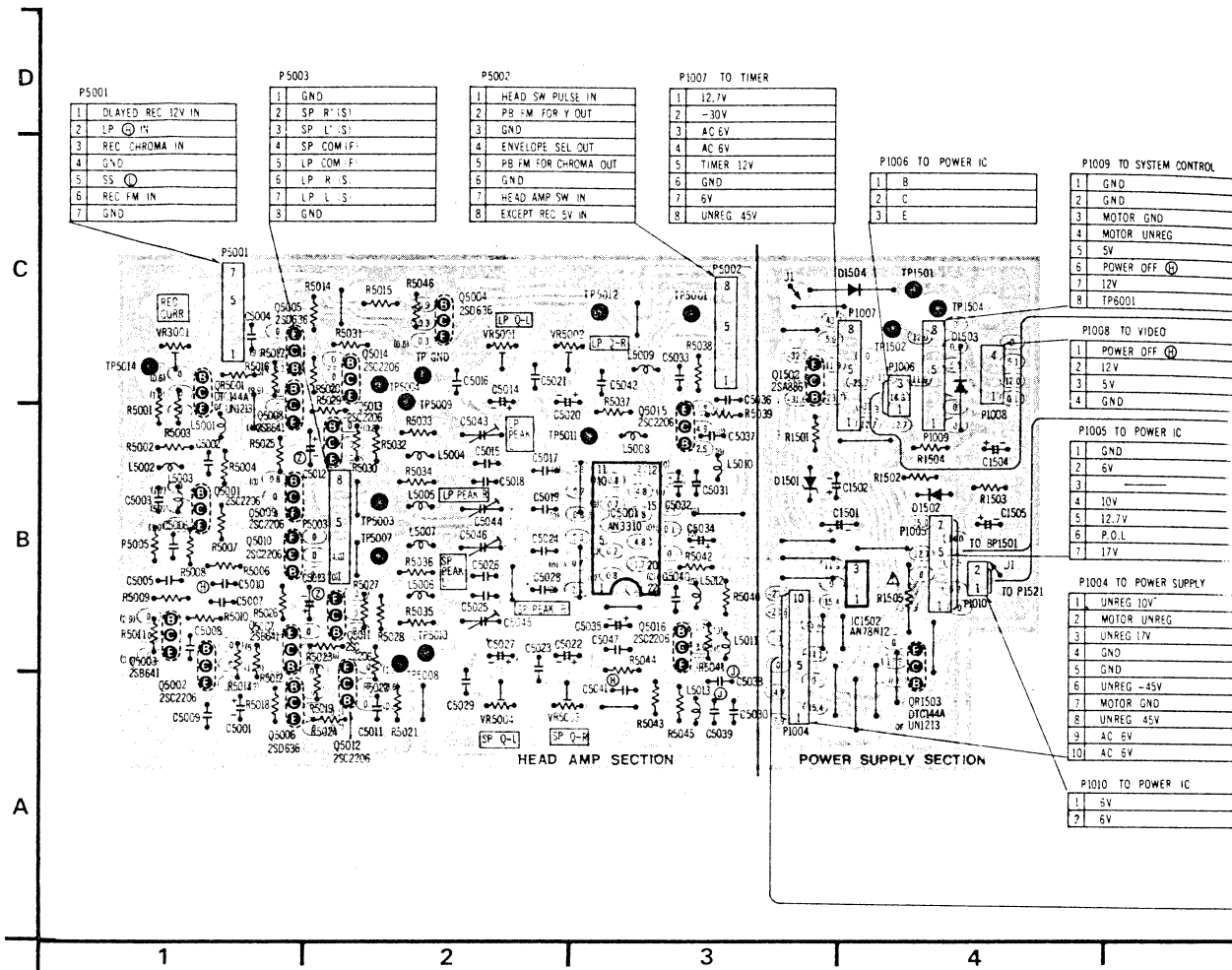
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THE 8002 IC IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THE 8003 IC IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.
(THE VOLTAGES OF THE PARTS FOR EG ARE MEASURED WITH SECAM COLOUR SIGNAL.)

LUMINANCE & CHROMINANCE Section

Bei Farbplattieren
auf DDR $\rightarrow$
R 8071 auf
100 Ω ändern



3-15. HEAD AMP Section In Head Amp & Power Supply Circuit Board (VEP05055A)



HEAD AMP TRANSISTORS VOLTAGE CHART (LP Mode)

REF. NO.	Q5001			Q5002			Q5003			Q5004			Q5005			Q5006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0	0	0	0	0	0	0	0	4.3	5.0	4.9	0	0	0.6	0	0	0
REC	1.0	5.7	1.7	4.9	11.5	5.7	3.6	0	2.9	4.3	5.0	4.9	0	0.1	0.7	0	11.4	0.1

REF. NO.	Q5007			Q5008			Q5009			Q5010			Q5011			Q5012		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0	0	0	0	0	0	0	0.8	0	0	0.8	0	0	0.1	0	0	0.1
REC	4.0	0.8	11.2	4.0	4.0	3.2	0	4.0	0	0	0.8	0	0	0	0.8	0	0	0.8

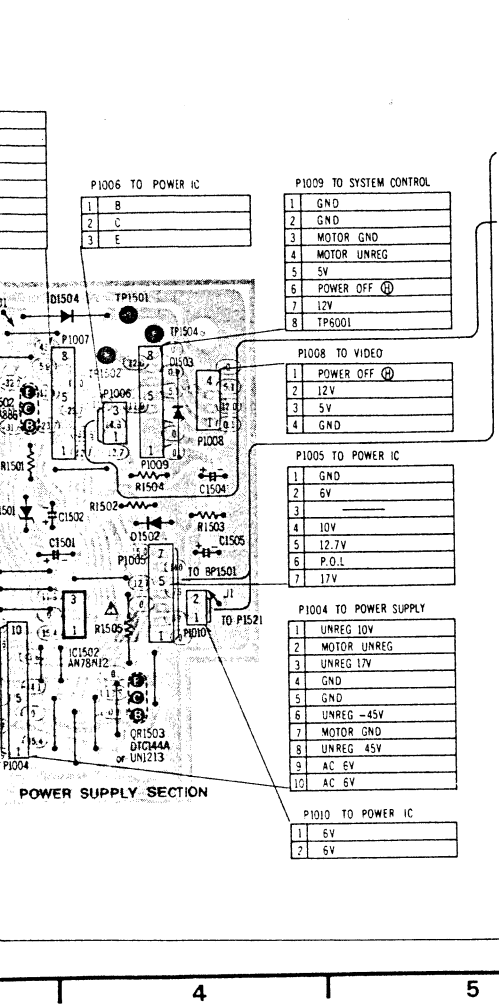
REF. NO.	Q5013			Q5014			Q5015			Q5016								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
PLAY	0	0	0	0	0	0	1.8	4.9	2.5	1.0	3.6	1.7						
REC	0	0	0.8	0	0	0.8	0	0	0	0	0	0						

REF. NO.	QR5001																	
MODE	E	C	B															
PLAY	0	0	5.0															
REC	0	0	5.1															

HEAD AMP ICs VOLTAGE CHART (LP Mode)

REF. NO.	IC5001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	2.5	0.8	0.7	0.7	0.8	0	0.8	0.7	0.7	0.8	0.1	2.2	2.3	4.8	2.7	4.8	0.1	4.8	0	1.7
REC	2.5	0	0	0	0	0	0	0	0	0	0	2.7	0.6	0.6	0.4	0	0	1.1	0	0

REF. NO.	IC5001									
MODE	21	22								
PLAY	3.1	3.1								
REC	0	0								

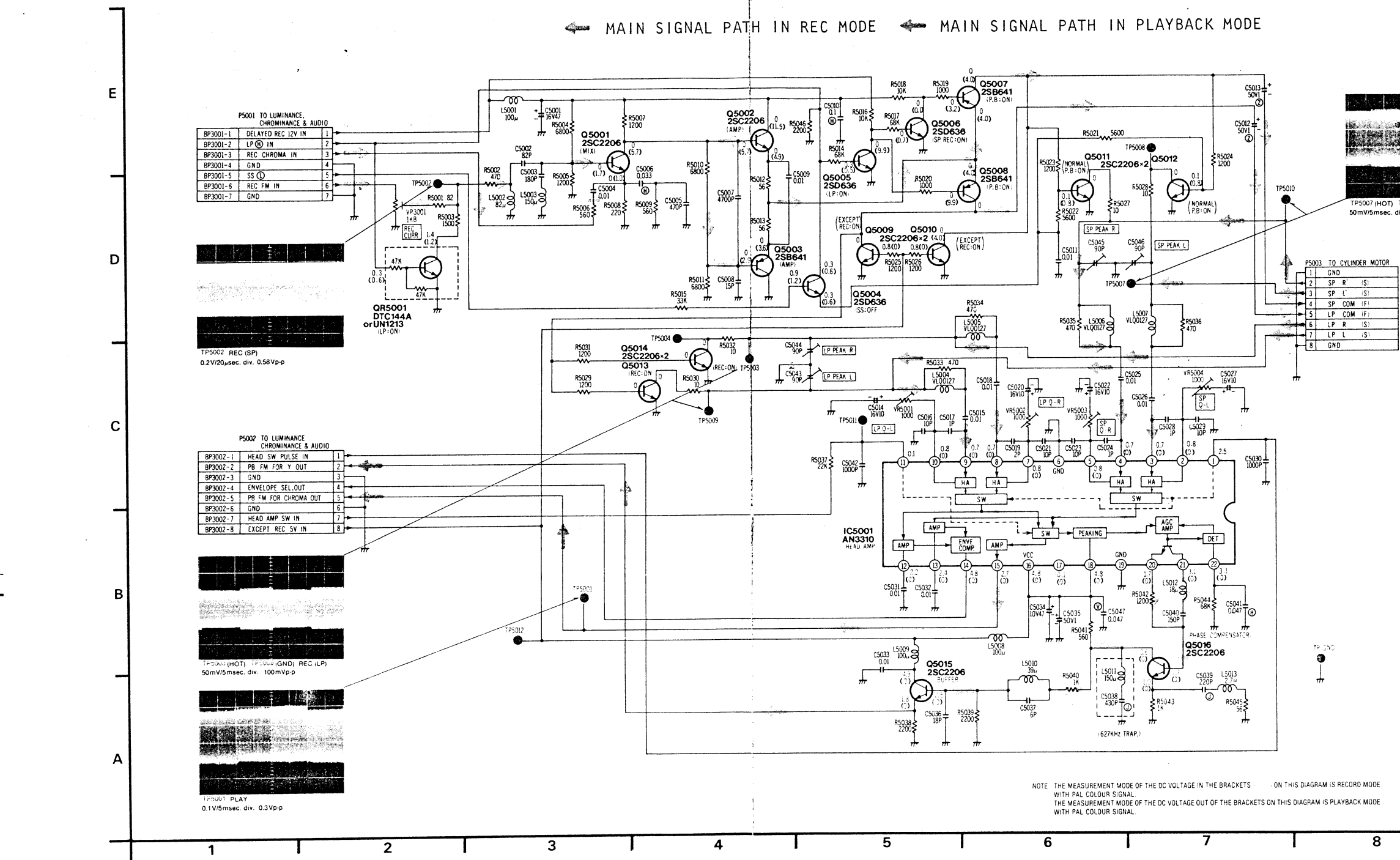


Mode)

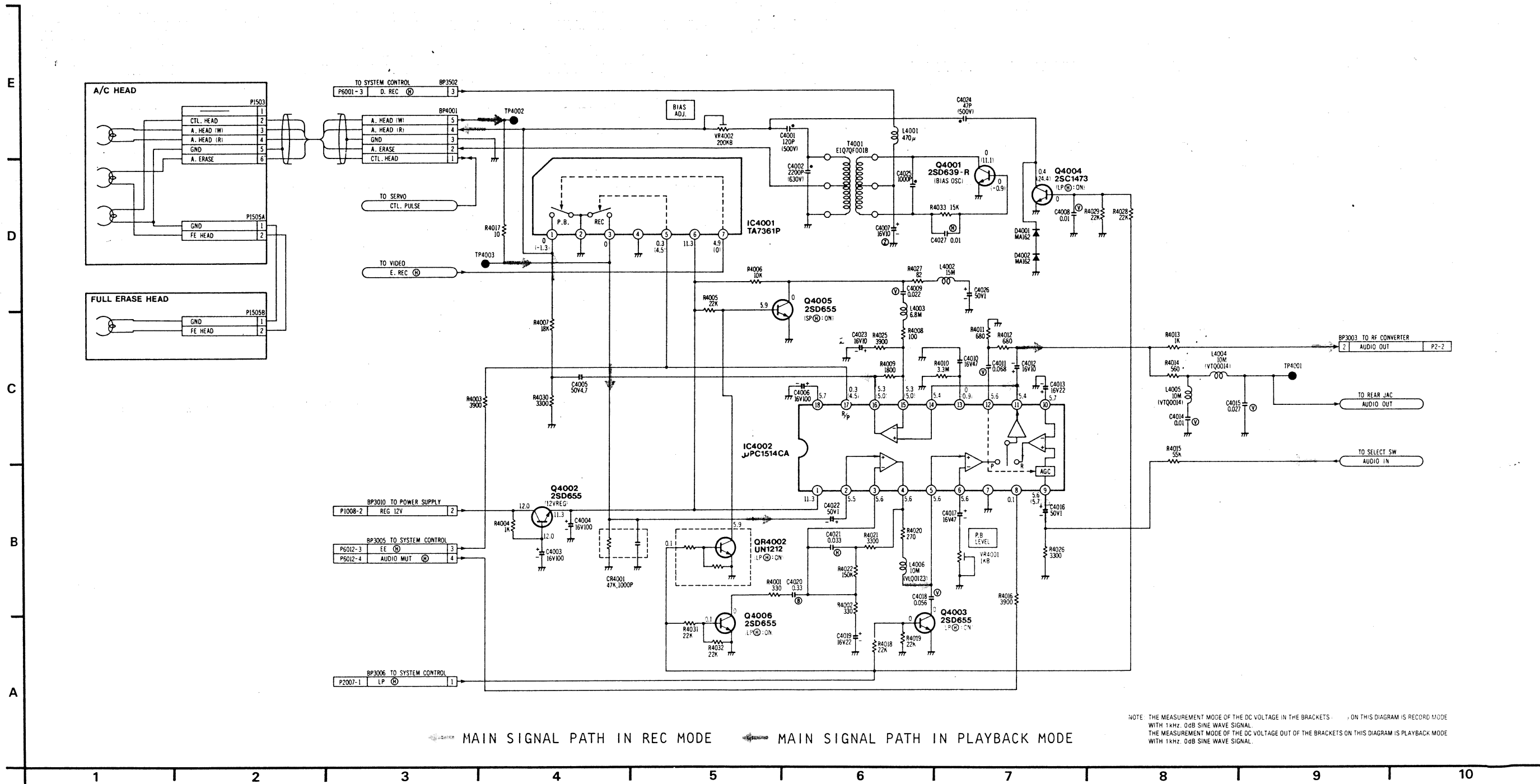
Q5005			Q5006		
E	C	B	E	C	B
0	0	0.6	0	0	0
0	0.1	0.7	0	11.4	0.1

Q5011			Q5012		
E	C	B	E	C	B
0	0	0.1	0	0	0.1
0	0	0.8	0	0	0.8

13	14	15	16	17	18	19	20
3	4.8	2.7	4.8	0.1	4.8	0	1.7
6	0.4	0	0	1.1	0	0	0

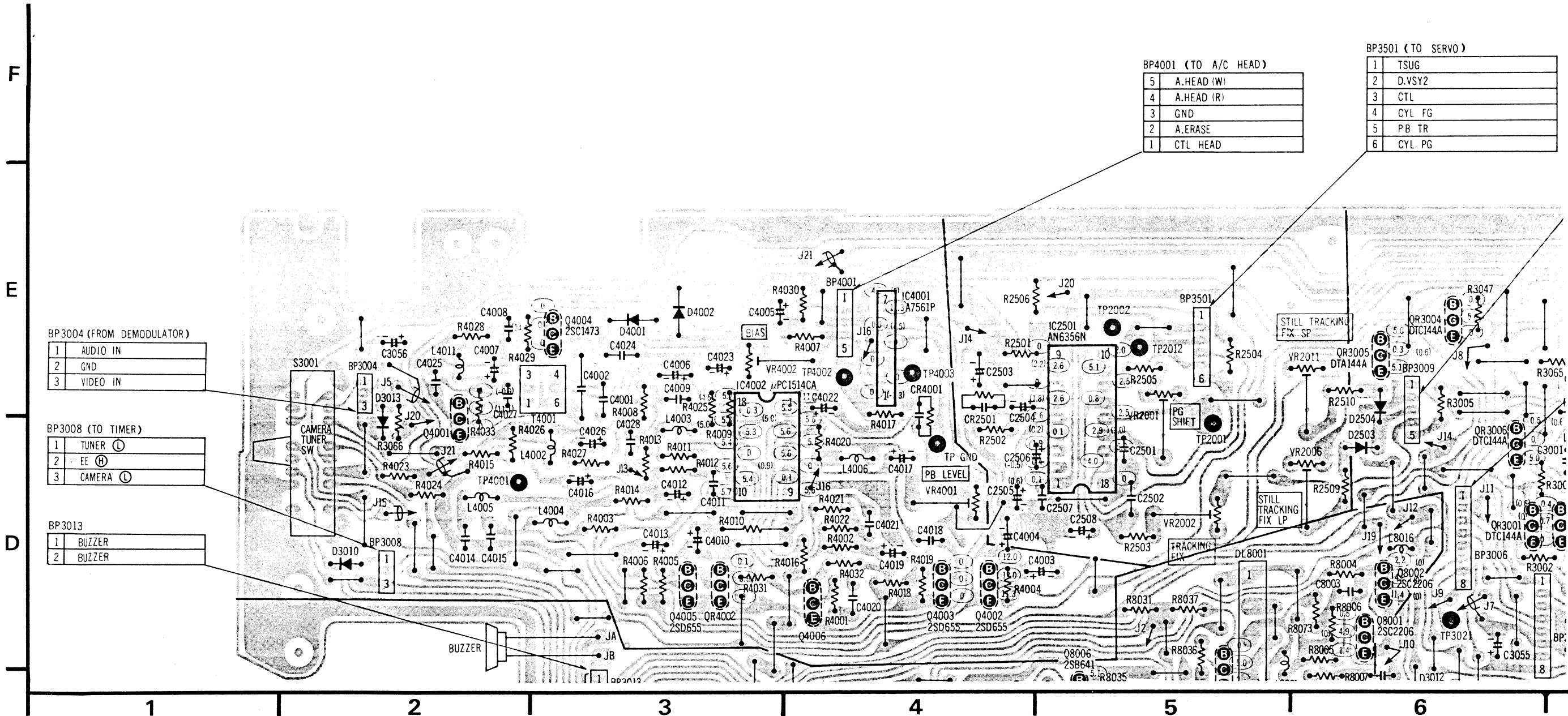


3-17. AUDIO SCHEMATIC DIAGRAM

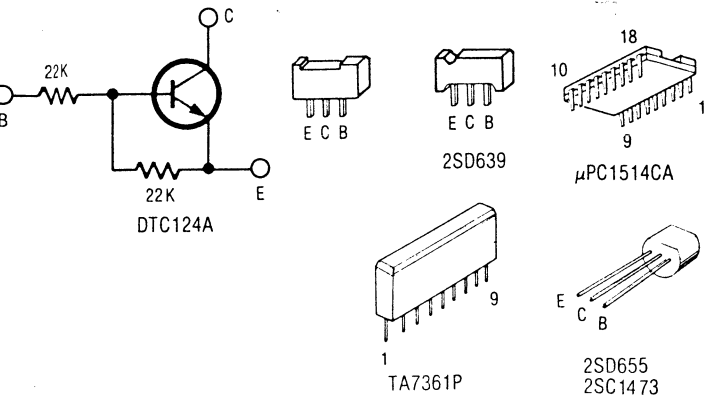


AUDIO SCHEMATIC		Integrated Circuit		Connector	
Transistor		IC4001	D-5	BP3003	C-9
Q4001	D-7	IC4002	C-5	BP3005	B-3
Q4002	B-4	Test Point		BP3006	A-3
Q4003	A-7	TP4001	C-9	BP3010	B-3
Q4004	D-7	TP4002	E-4	BP3502	E-3
Q4005	D-6	TP4003	D-4	BP4001	E-3
Q4006	A-5	Adjustment		P1503	E-2
Transistor & Resistor		VR4001	B-7	P1505A	D-2
QR4002	B-5	VR4002	E-5	P1505N	C-2
		ADDRESS INFORMATION			

3-18. AUDIO Section In Main Circuit Board (VEP03214A/B)



ICs & TRANSISTORS INFORMATION



MAIN [Luminance & Chrominance, Audio, Servo (2)] CIRCUIT BOARD

Transistor	
Q3001	D-7
Q3002	D-9
Q3003	C-8
Q3004	B-8
Q3005	B-8
Q3006	C-7
Q4001	E-2
Q4002	D-4
Q4003	D-4
Q4004	E-3
Q4005	D-3
Q4006	D-4
Q8001	D-6
Q8003	B-5
Q8004	C-3
Q8005	C-4
Q8006	C-5
Q8007	C-5

Q8008	C-5
Q8009	C-5
Q8010	C-4
Q8011	C-4
Q8012	C-6
Q8013	B-3
Q8014	B-5

Transistor & Resistor	
QR3001	D-6
QR3002	B-8
QR3003	B-8
QR3004	E-6
QR3005	E-6
QR3006	D-6
QR3007	B-6
QR3008	B-6
QR4002	D-3
QR8001	C-5
QR8002	B-3
QR8003	C-3
QR8004	C-6
QR8005	B-3

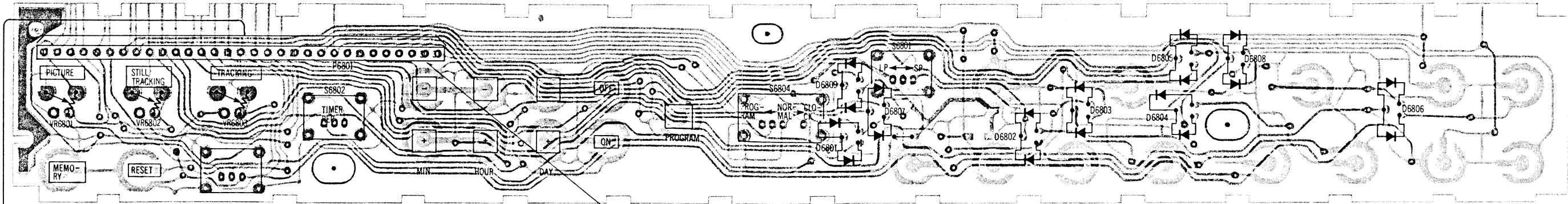
Integrated Circuit	
IC2501	E-5
IC3001	C-7
IC3002	D-8
IC3003	B-9
IC3004	B-7
IC4001	E-4
IC4002	E-3
IC8001	B-4
IC8002	B-6
IC8003	B-5

Test Point	
TP2001	E-5
TP2002	E-5
TP2012	E-5
TP3002	C-9
TP3009	C-7
TP3020	D-8
TP3021	D-6
TP3022	E-7
TP3023	E-8
TP4001	D-3

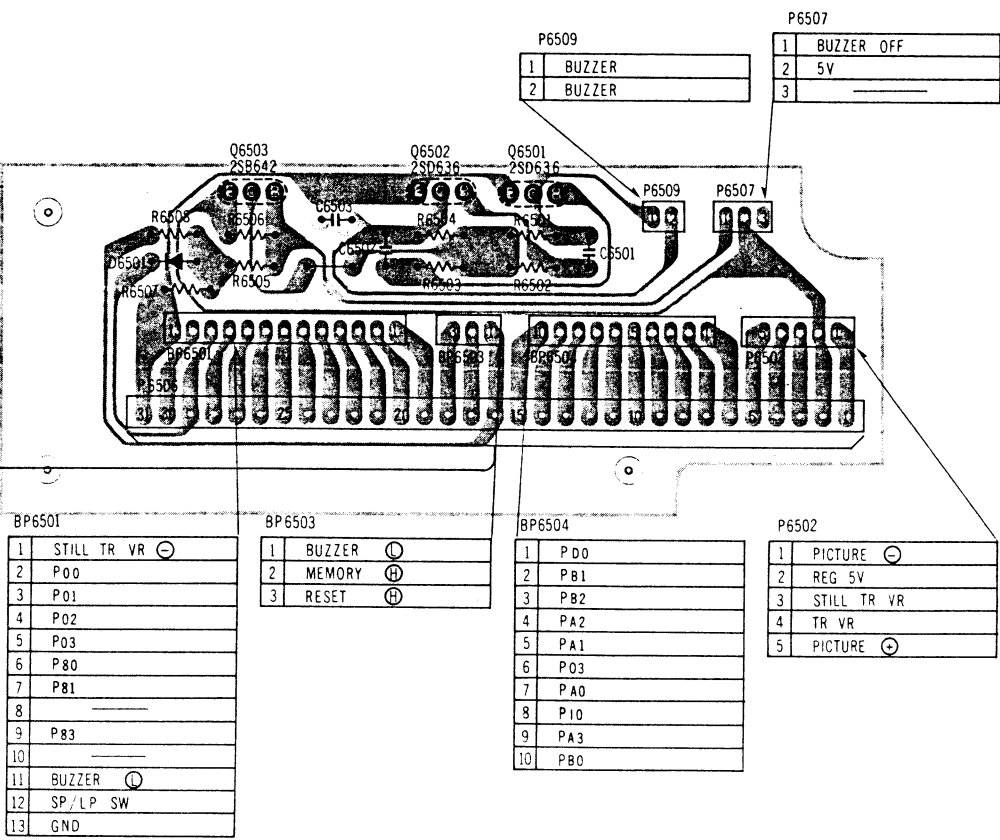
TP4002	E-4
TP4003	E-4
TP8005	C-3
TP8006	C-4
TP8008	B-5
TP GND	E-4
TP GND	C-3
TP GND	D-9

Adjustment	
VR2001	E-5
VR2002	D-5
VR2006	D-6
VR2009	B-4
VR2010	B-4
VR2011	E-6
VR3009	C-8
VR3010	C-8
VR4001	D-4
VR4002	E-3
VR8001	C-6
C3023	D-8
L8015	B-5

3-19. KEYBOARD CIRCUIT BOARD (VEP06233A)

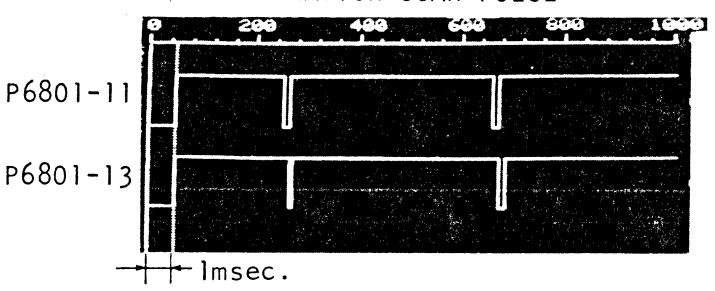


KEYBOARD CONNECTION C. BOARD (VJB00C63A)

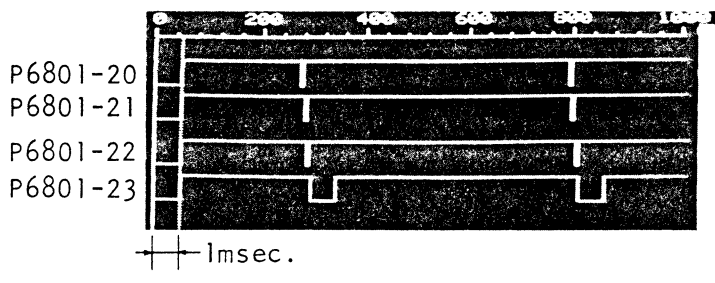


P6801	
1	PICTURE VR ⁻
2	REG 5V
3	STILL TRACKING VR ⁺
4	TRACKING VR
5	PICTURE VR ⁺
6	P73
7	P31
8	P32
9	PA2
10	PA1
11	P03
12	PA0
13	P10
14	PA3
15	P80
16	
17	MEMORY
18	RESET
19	STILL TRACKING VR ⁻
20	P00
21	P01
22	P02
23	P03
24	P80
25	P81
26	
27	P83
28	
29	
30	SP/LP SW
31	GND

TIMER OPERATION SCAN PULSE



DECK CONTROL SCAN PULSE

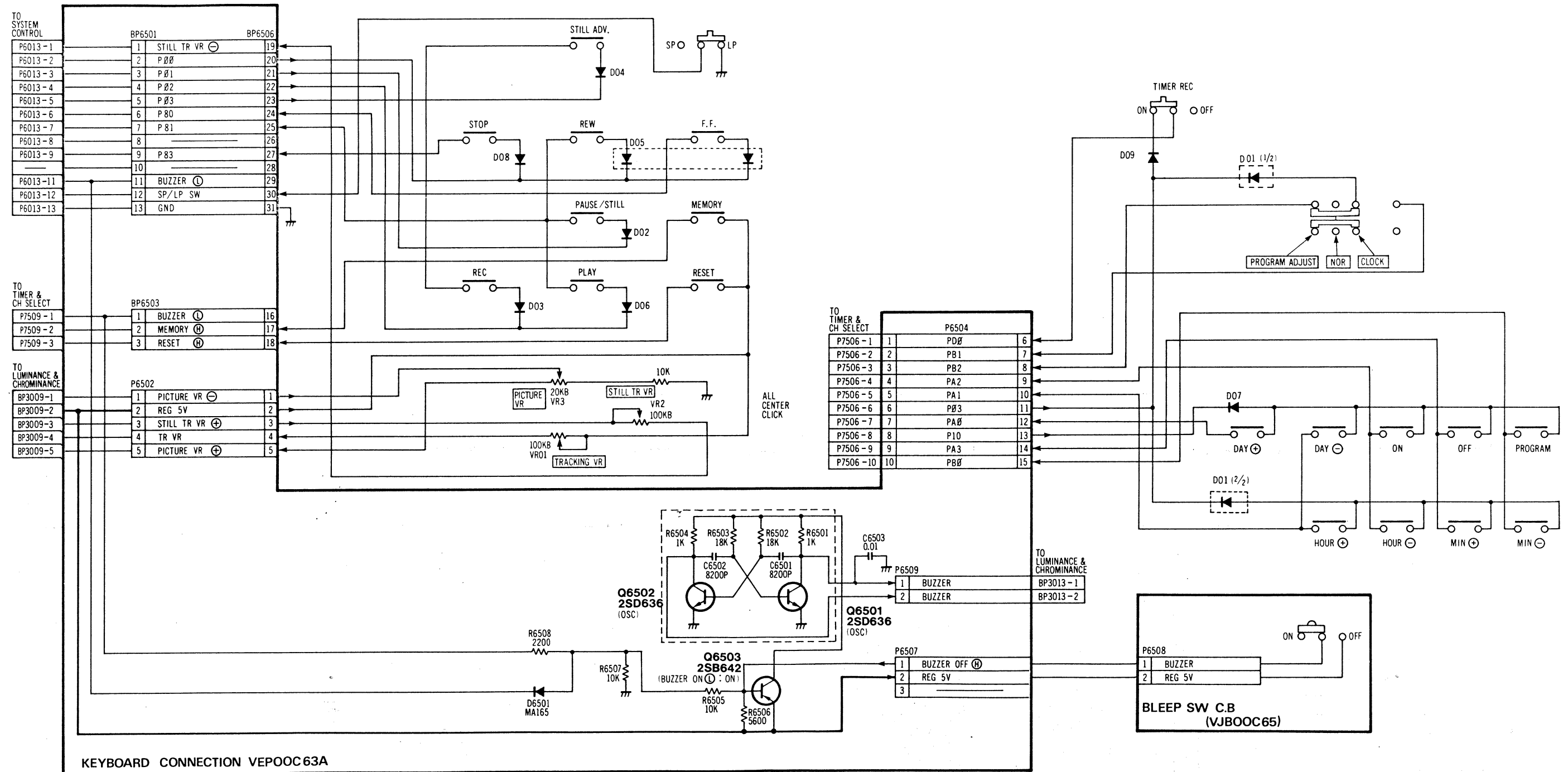


TRANSISTORS INFORMATION



2SD636
2SB642

3-20. KEYBOARD SCHEMATIC DIAGRAM



3-21. TV DEMODULATOR AND TUNER CONNECTION CIRCUIT BOARD (VEP07221A/B, VEP07222A/B) [NV-730EG/EO]

P701

1	AUDIO OUT
2	GND
3	VIDEO
4	GND
5	+12V

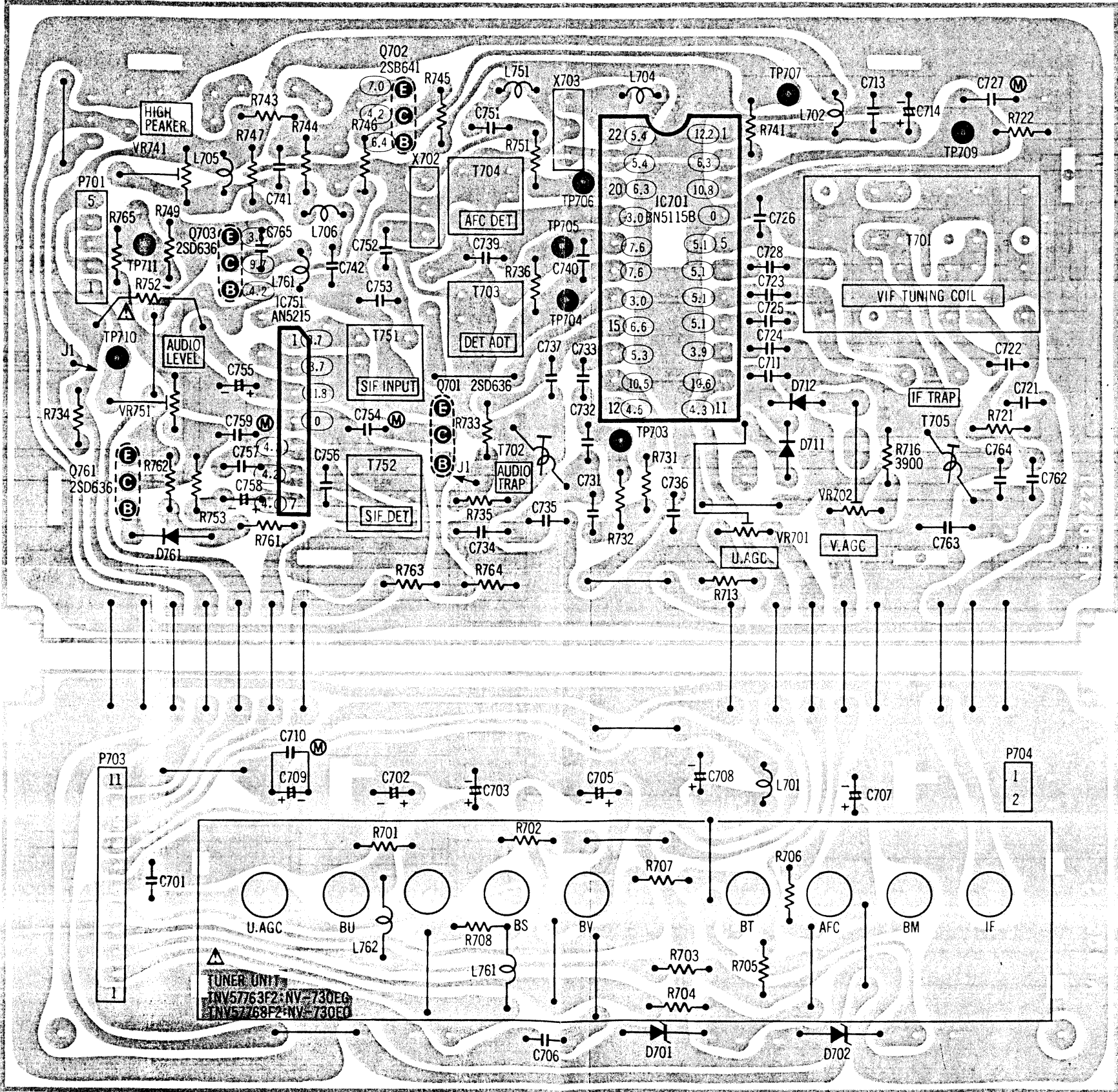
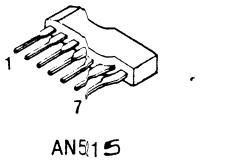
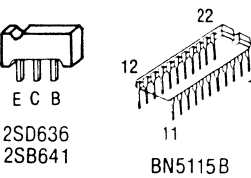
P703

1	GND
2	BS
3	BV
4	BU
5	BT
6	GND
7	AFC DEF
8	AUDIO MUTE
9	AUDIO DEF
10	VIDEO OUT
11	12V

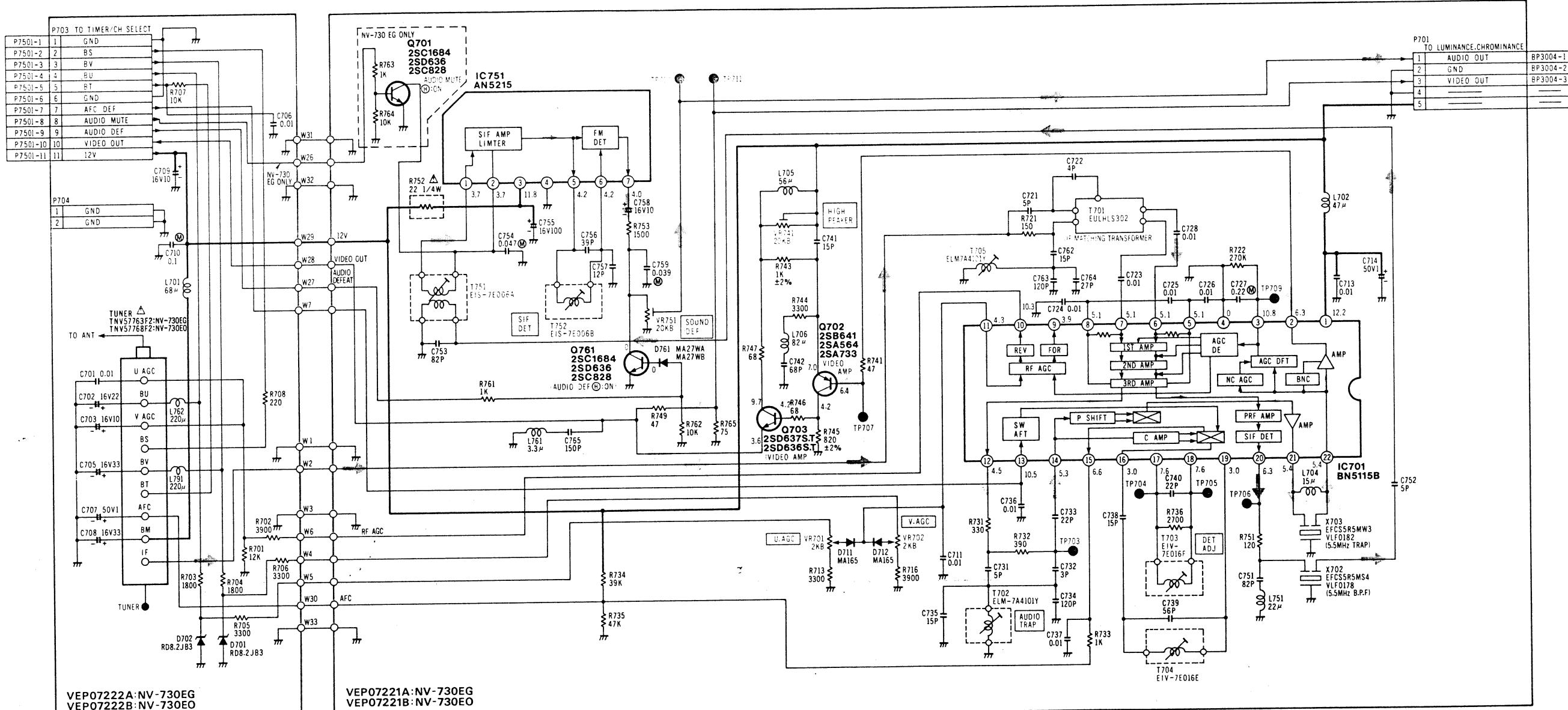
P704

1	GND
2	GND

ICs & TRANSISTORS
INFORMATION



3-22. TV DEMODULATOR AND TUNER CONNECTION SCHEMATIC DIAGRAM [NV-730EG/EO]



VIDEO LOOP ← AUDIO LOOP

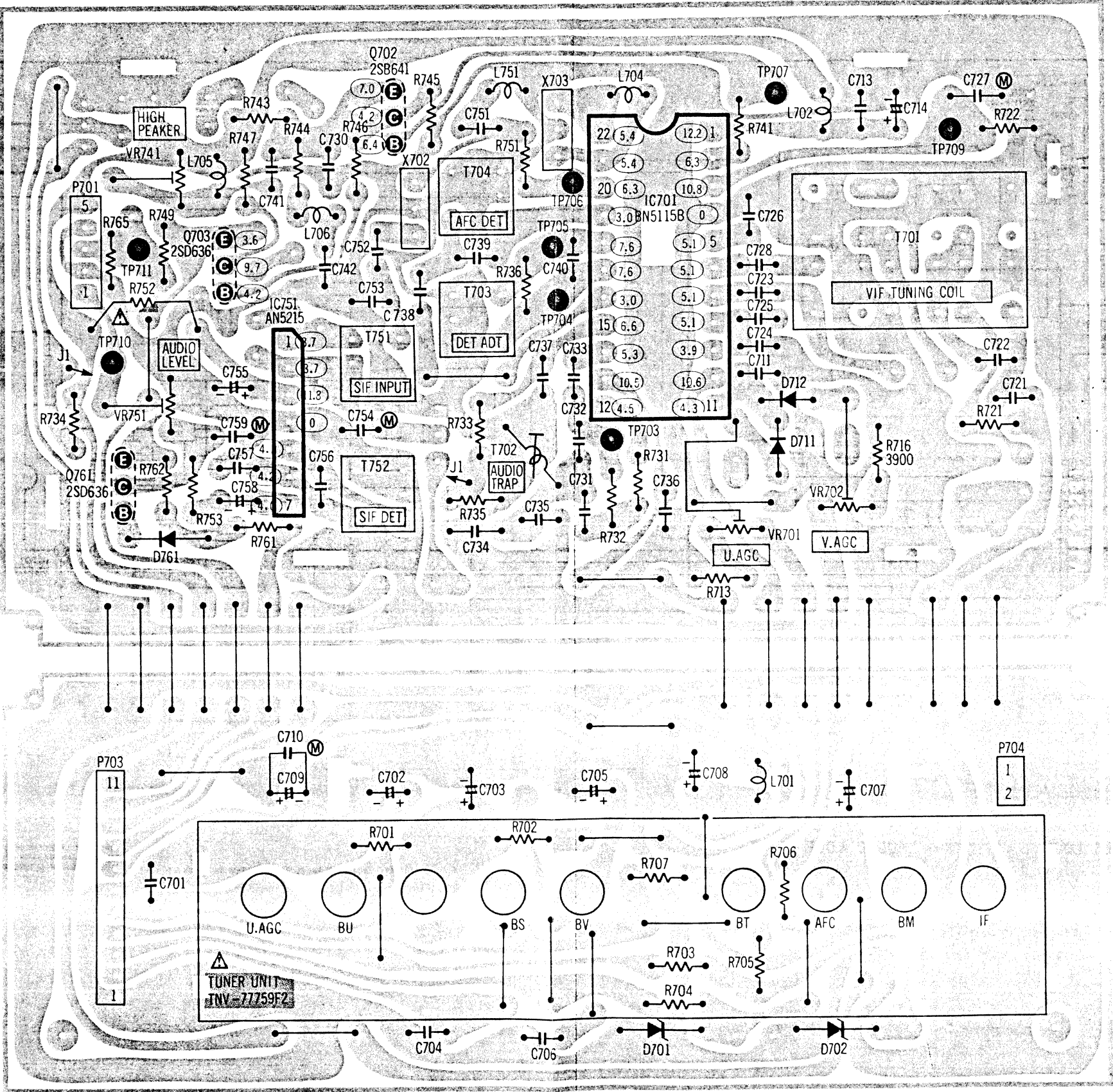
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-23. TV DEMODULATOR AND TUNER CONNECTION CIRCUIT BOARD (VEP07221C, VEP07222C) [NV-730E]

P701

1	AUDIO OUT
2	GND
3	VIDEO
4	GND
5	+12V



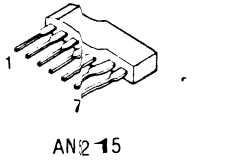
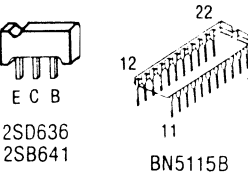
P703

1	GND
2	BS
3	BV
4	BU
5	BT
6	GND
7	AFC DEF
8	
9	AUDIO DEF
10	VIDEO OUT
11	12V

P704

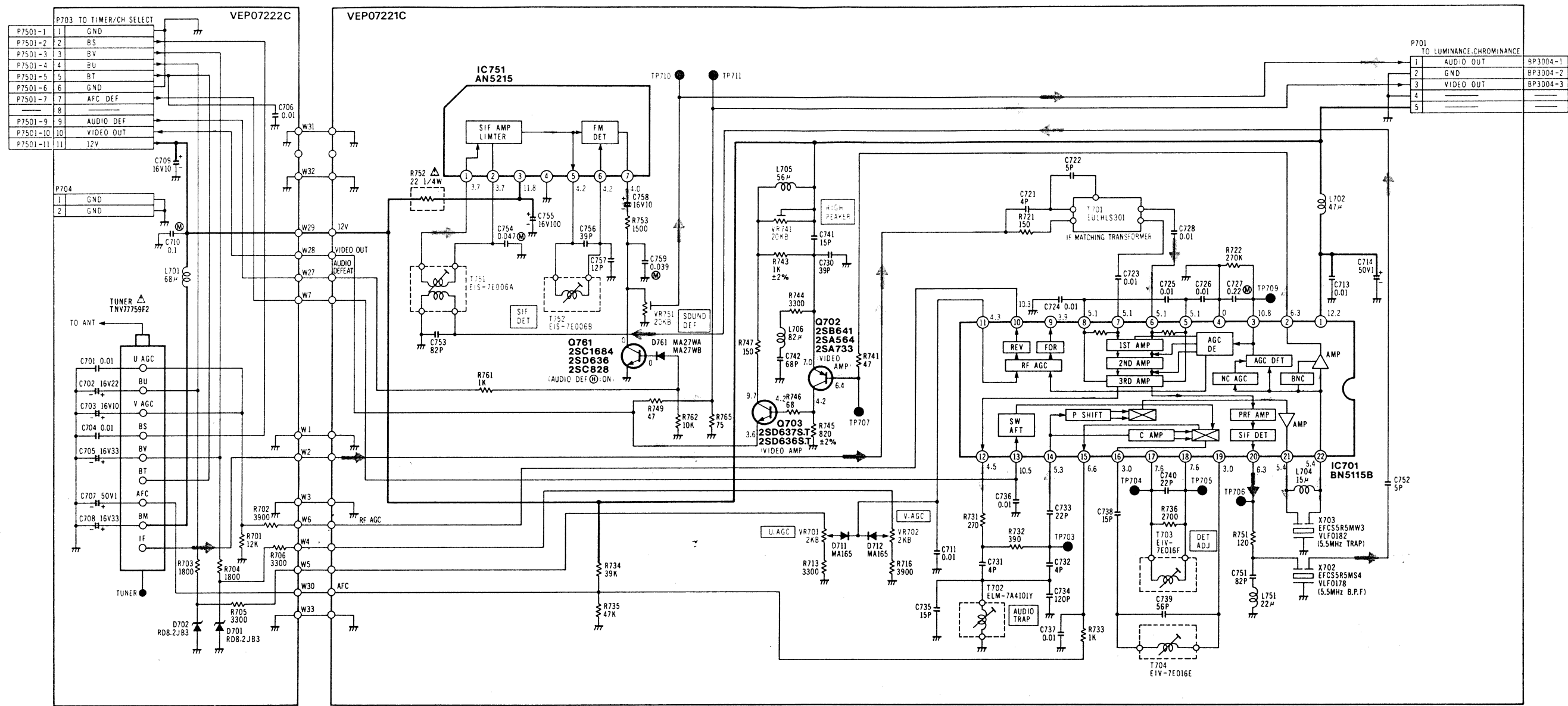
1	GND
2	GND

ICs & TRANSISTORS INFORMATION



Back Page:
TV DEMODULATOR AND TUNER
CONNECTION (NV-730EG) Section

3-24. TV DEMODULATOR AND TUNER CONNECTION SCHEMATIC DIAGRAM [NV-730E]



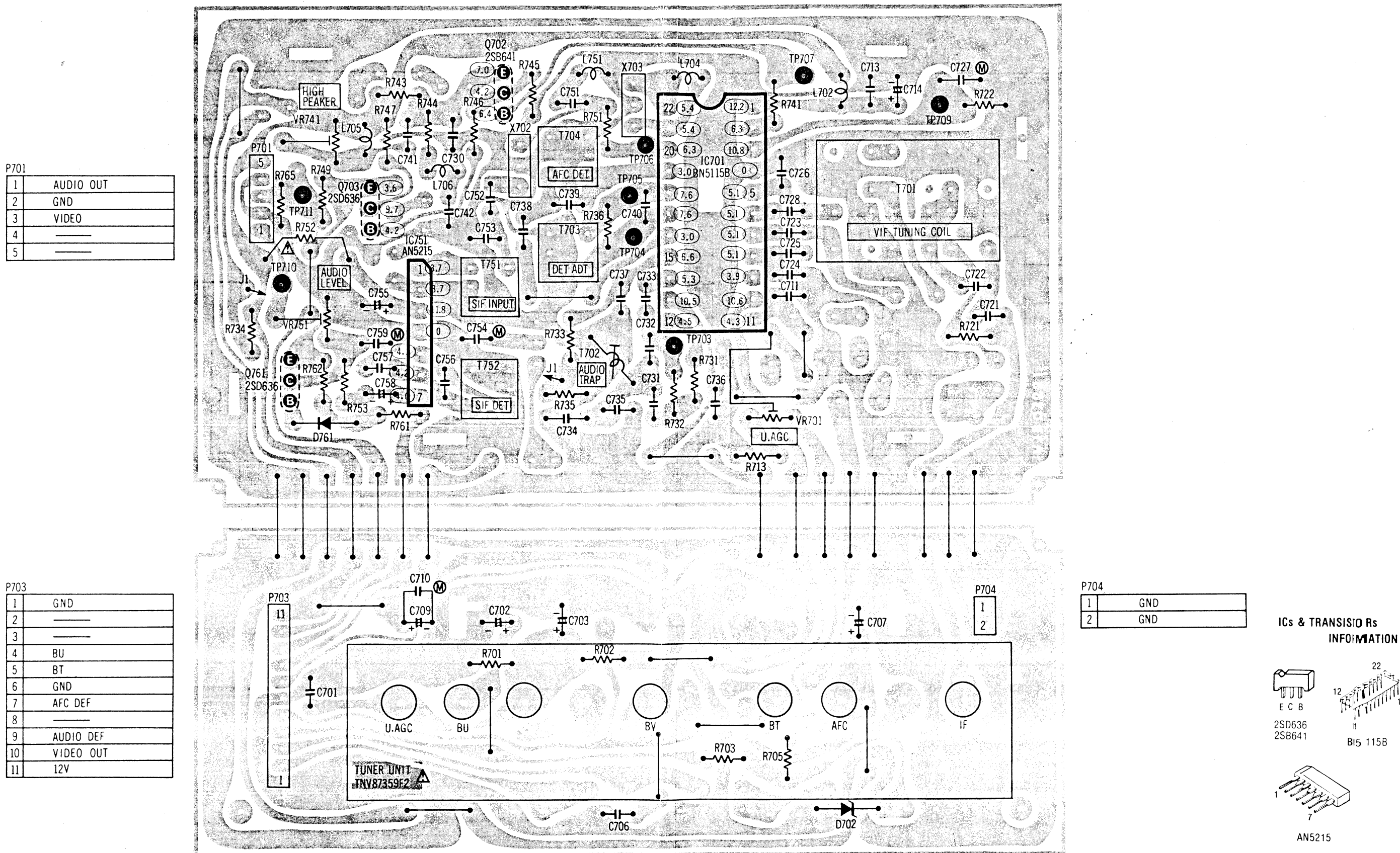
VIDEO LOOP

AUDIO LOOP

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-25. TV DEMODULATOR AND TUNER CONNECTION CIRCUIT BOARD (VEP07221D, VEP07222D) [NV-730B]



P701

1	AUDIO OUT
2	GND
3	VIDEO
4	
5	

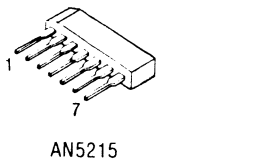
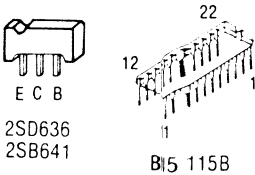
P703

1	GND
2	
3	
4	BU
5	BT
6	GND
7	AFC DEF
8	
9	AUDIO DEF
10	VIDEO OUT
11	12V

P704

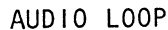
1	GND
2	GND

ICs & TRANSISTORS INFORMATION



Back Page:
TV DEMODULATOR AND TUNER
CONNECTION (NV-730EO) Section

3-26. TV DEMODULATOR AND TUNER CONNECTION SCHEMATIC DIAGRAM [NV-730B]



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

14 8
 μ PC1373H

32 33 64 1
MN1512VTJ

18 10 9 1
MB88201148

18 10 9 1
MN1228

18 10 9 1
AN6873N
 μ PD7537CU

21 22 42 1
MN1455BVL

18 10 9 1
AN873

20 11 10 1
AN5033

9 1
AN5421

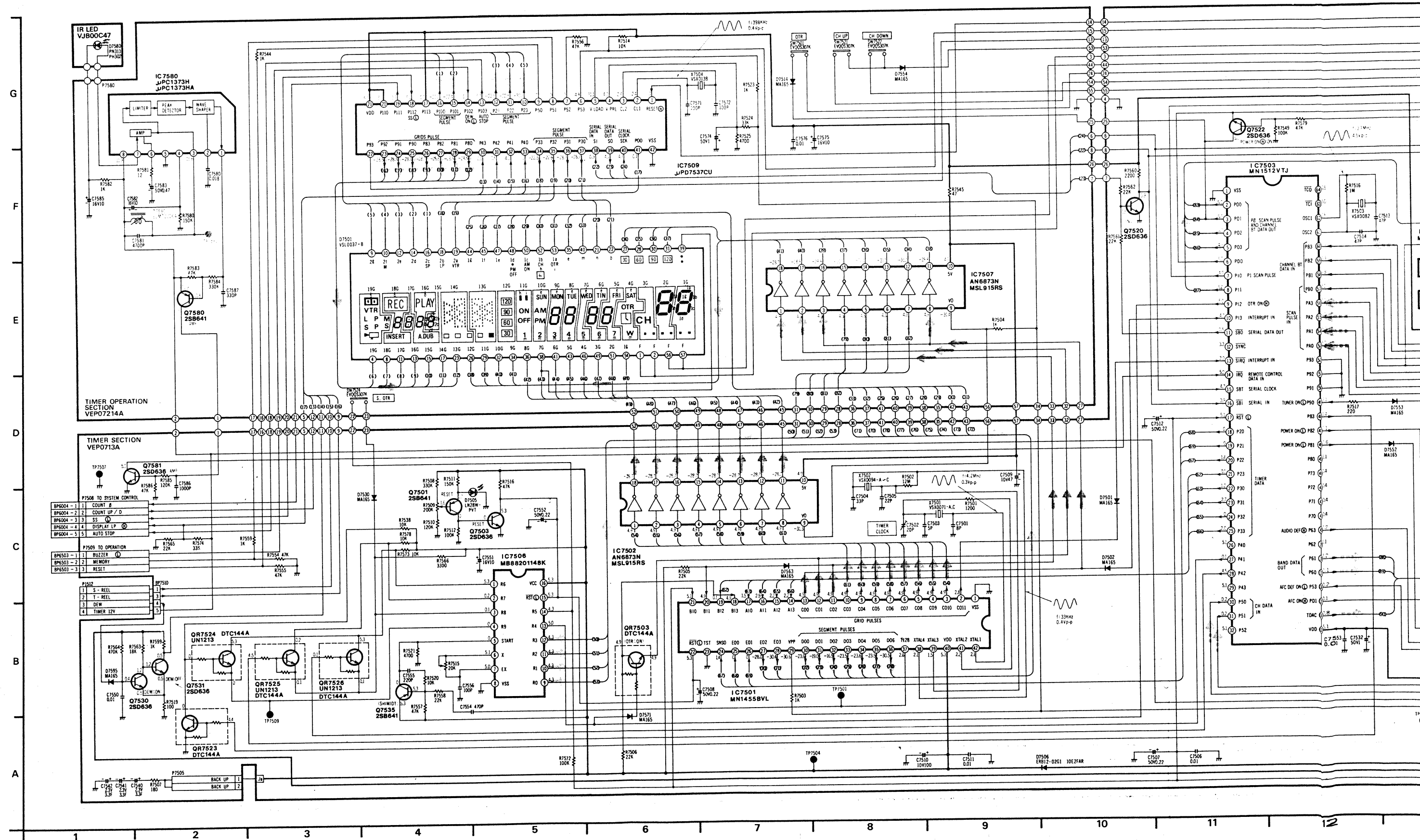
10K B C E
DTA114A

47K B C E
DTA144A

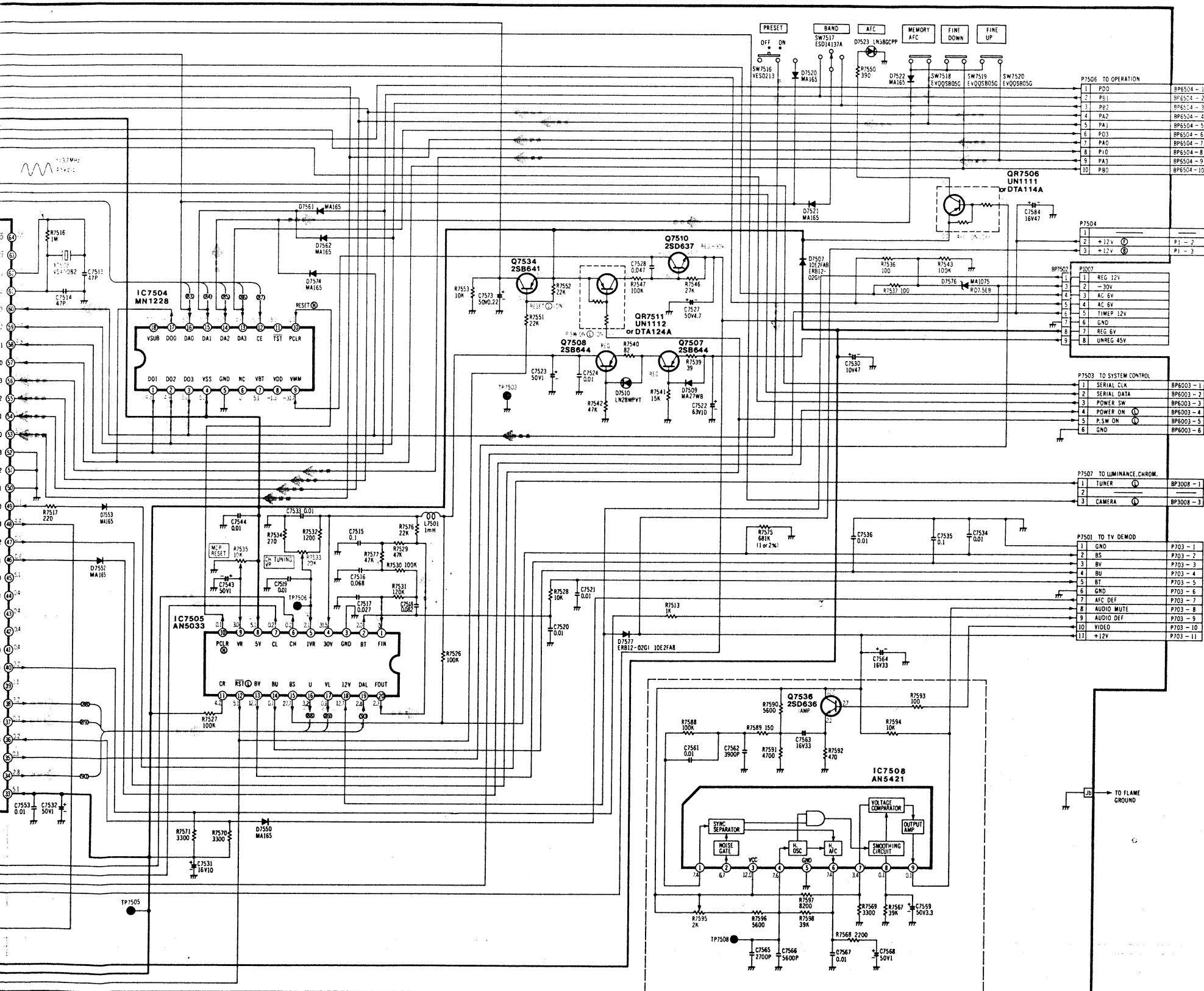
22K B C E
DTA124A

3—28

3-28. TIMER AND TIMER OPERATION SCHEMATIC DIAGRAM [NV-730E/EG/EO]



← SEGMENT CONTROL SIGNAL
 ← BT/CH. DATA TRANSMISSION LOOP
 ← GRID CONTROL SIGNAL
 ← PRESET/MEMORY/FINE CONTROL



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS
 DIAGRAM IN THE FOLLOWING CONDITION.
 1) MODE SELECTOR: CLOCK
 2) SELECTION TIME: SUN 0000 CH DISPLAY: AFC 1

TIMER & TIMER OPERATION SCHEMATIC

Transistor	
Q7501	C-4
Q7503	C-5
Q7507	E-17
Q7508	E-16
Q7510	F-17
Q7520	F-10
Q7522	F-11
Q7530	B-2
Q7531	B-2
Q7533	F-19
Q7534	F-16
Q7535	B-4
Q7536	C-18
Q7580	E-2
Q7581	D-2

Transistor & Resistor	
QR7503	B-6
QR7506	F-19
QR7511	E-16
QR7523	A-2
QR7524	B-2
QR7525	B-3
QR7526	B-3

Integrated Circuit	
IC7501	B-7
IC7502	C-6
IC7503	F-12
IC7504	F-13
IC7505	C-13
IC7506	C-5
IC7507	E-9
IC7508	B-18
IC7509	F-6
IC7580	G-2

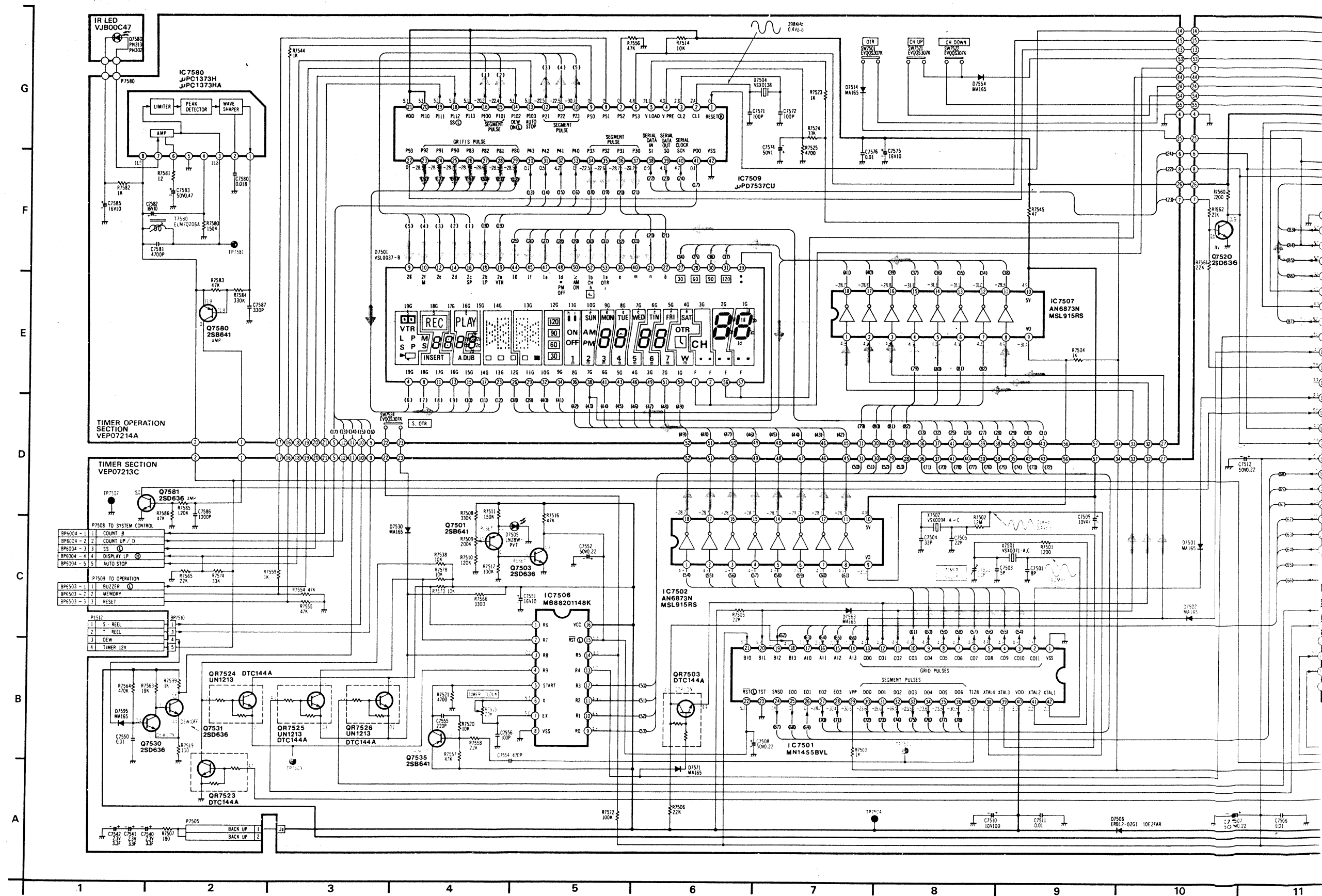
Test Point	
TP7501	B-8
TP7503	E-15
TP7504	A-8
TP7505	A-13
TP7506	C-14
TP7507	D-1
TP7508	A-17
TP7509	A-3
TP7581	F-2

Adjustment	
R7509	C-4
R7515	B-4
R7533	D-14
R7535	D-14
R7595	A-17
C7502	C-8
T7580	F-2

Connector	
P1007	F-20
P1512	C-1
P7501	D-20
P7503	E-20
P7504	F-20
P7505	A-2
P7506	G-20
P7507	D-20
P7508	C-1
P7509	C-1
BP7502	F-19
BP7510	C-2

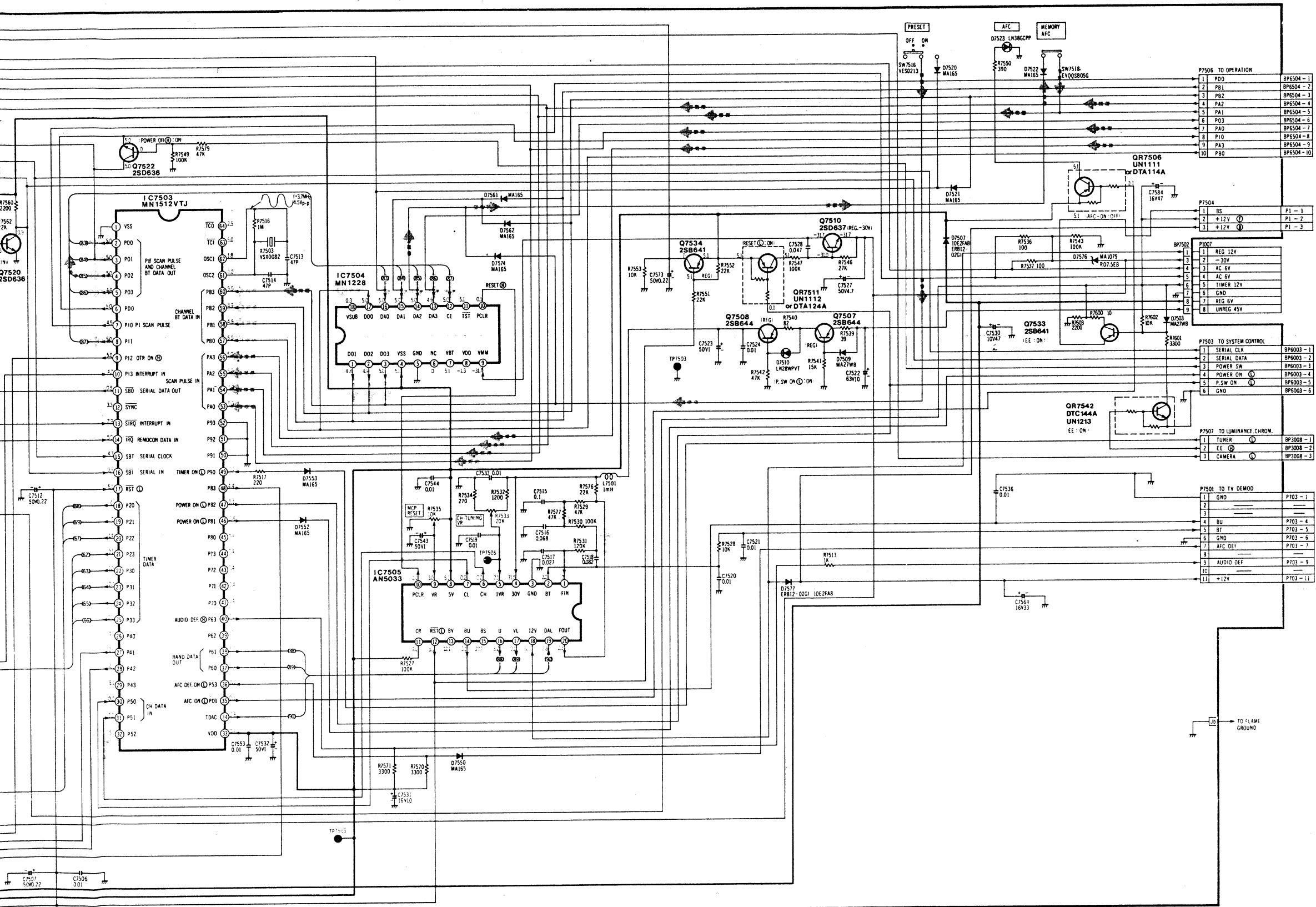
ADDRESS INFORMATION

3-29. TIMER AND TIMER OPERATION SCHEMATIC DIAGRAM [NV-730B]



Back Page:
TIMER AND TIMER OPERATION
(NV-730E/EG/EO) Section

← SEGMENT CONTROL SIGNAL
 ← BT/CH. DATA TRANSMISSION LOOP
 ← GRID CONTROL SIGNAL
 ← PRESET/MEMORY/FINE CONTROL

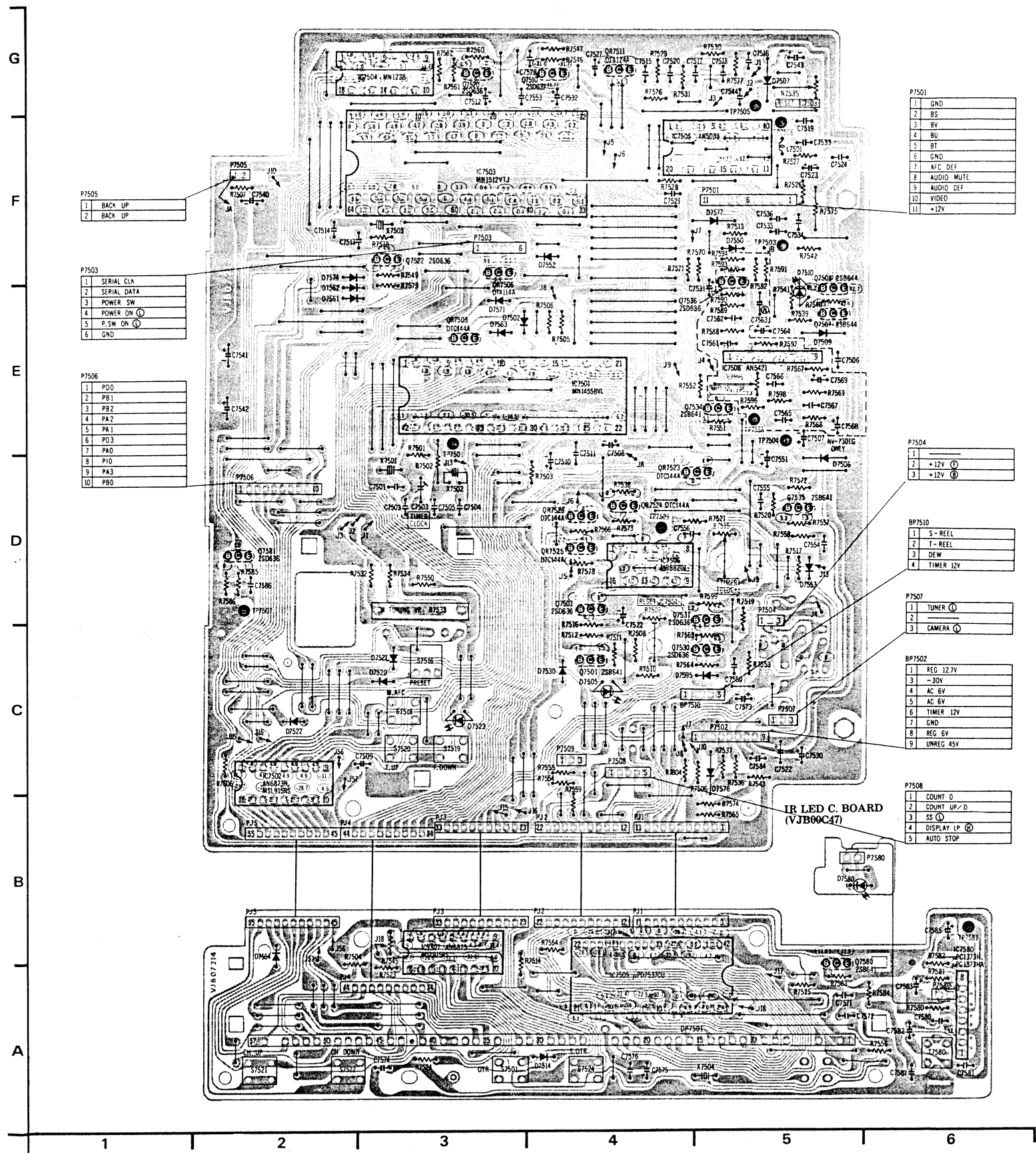


TIMER & TIMER OPERATION SCHEMATIC	
Transistor	
Q7501	C-4
Q7503	C-5
Q7507	E-17
Q7508	E-16
Q7510	F-17
Q7520	F-10
Q7522	F-11
Q7530	B-2
Q7531	B-2
Q7533	E-19
Q7534	F-16
Q7535	B-4
Q7580	E-2
Q7581	D-2
Transistor & Resistor	
QR7503	B-6
QR7506	F-19
QR7511	E-16
QR7523	A-2
QR7524	B-2
QR7525	B-3
QR7526	B-3
QR7542	D-19
Integrated Circuit	
IC7501	B-7
IC7502	C-6
IC7503	F-12
IC7504	F-13
IC7505	C-13
IC7506	C-5
IC7507	E-9
IC7509	F-6
IC7580	G-2
Test Point	
TP7501	B-8
TP7503	E-15
TP7504	A-8
TP7505	A-13
TP7506	C-14
TP7507	D-1
TP7509	A-3
TP7581	F-2
Adjustment	
R7509	C-4
R7515	B-4
R7533	D-14
R7535	D-14
R7595	A-17
C7502	C-8
T7580	F-2
Connector	
P1007	F-20
P1512	C-1
P7501	D-20
P7503	E-20
P7504	F-20
P7505	A-2
P7506	G-20
P7507	D-20
P7508	C-1
P7509	C-1
BP7502	F-19
BP7510	C-2

ADDRESS INFORMATION

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS
 DIAGRAM IN THE FOLLOWING CONDITION:
 1) MODE SELECTOR: CLOCK
 2) SELECTION TIME: SUN 0:00, CH DISPLAY: AFC 1

3-30. TIMER AND TIMER OPERATION CIRCUIT BOARD (VEP07213C, VEP07214A) [NV-730B]



ICs & TRANSISTORS INFORMATION

TIMER & TIMER OPERATION CIRCUIT BOARD	
Transistor	
Q7501	C-4
Q7503	D-4
Q7507	E-5
Q7508	F-5
Q7510	G-4
Q7520	G-3
Q7522	F-3
Q7530	C-4
Q7531	D-4
Q7534	E-5
Q7535	D-5
Q7536	E-5
Q7580	A-5
Q7581	D-2

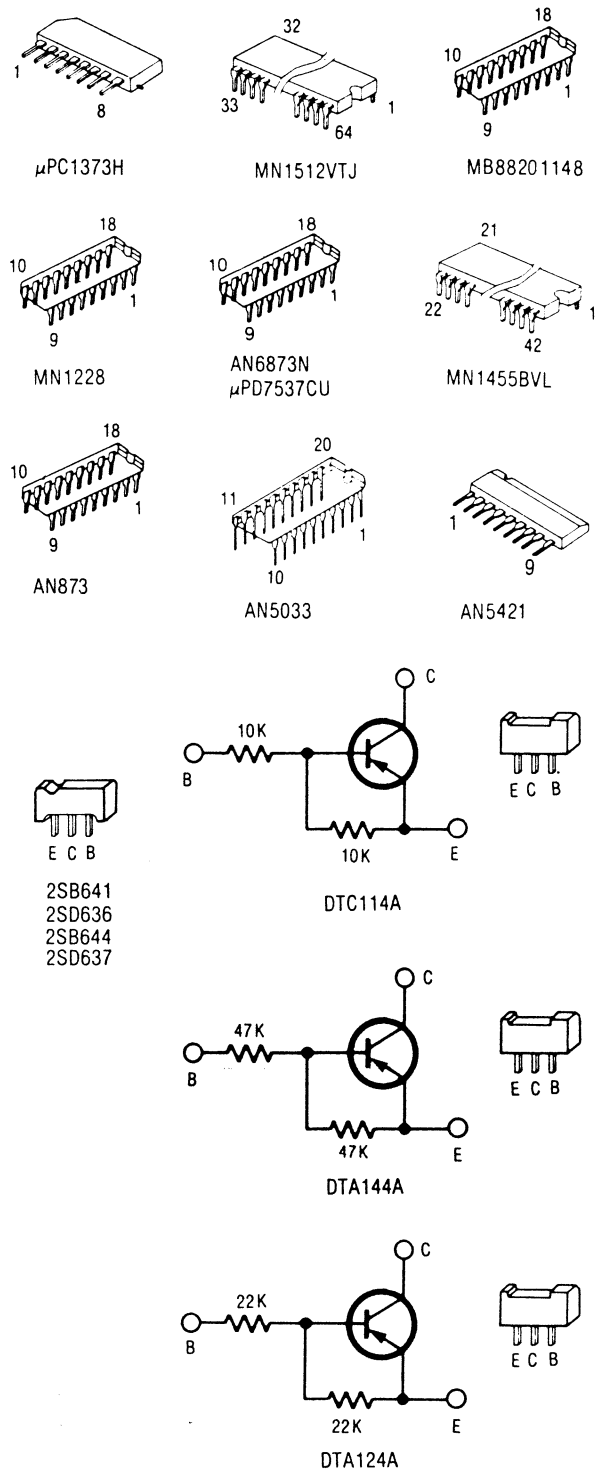
Transistor & Resistor	
QR7503	E-3
QR7506	F-3
QR7511	G-4
QR7523	C-4
QR7524	D-4
QR7525	D-4
QR7526	D-4

Integrated Circuit	
IC7501	E-4
IC7502	C-2
IC7503	F-3
IC7504	G-3
IC7505	F-5
IC7506	D-4
IC7507	B-3
IC7508	E-5
IC7509	A-4
IC7580	A-6

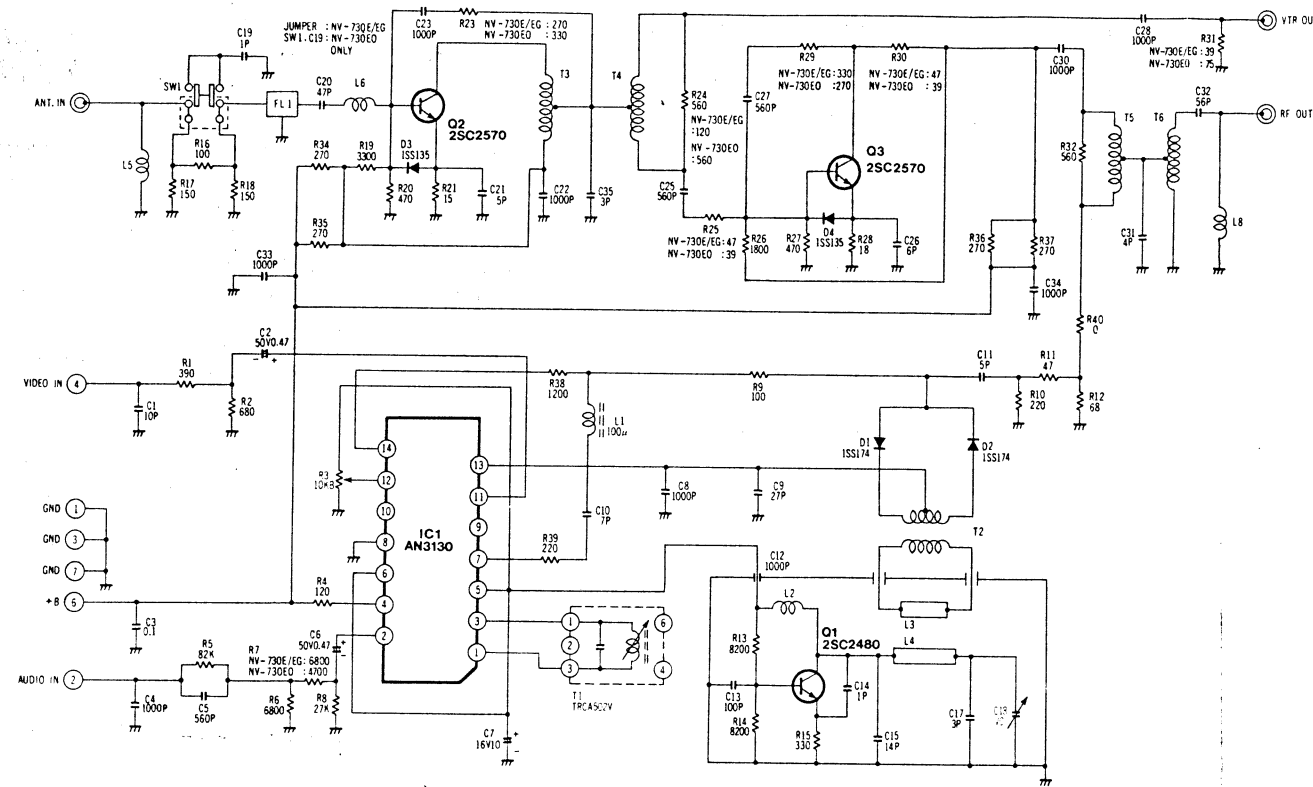
Test Point	
TP7501	E-3
TP7503	F-5
TP7504	E-5
TP7505	G-5
TP7506	F-5
TP7507	D-2
TP7508	E-5
TP7509	D-4
TP7581	B-6

Adjustment	
R7509	D-4
R7515	D-5
R7533	D-3
R7535	G-5
R7595	E-5
C7502	D-3
T7580	A-6

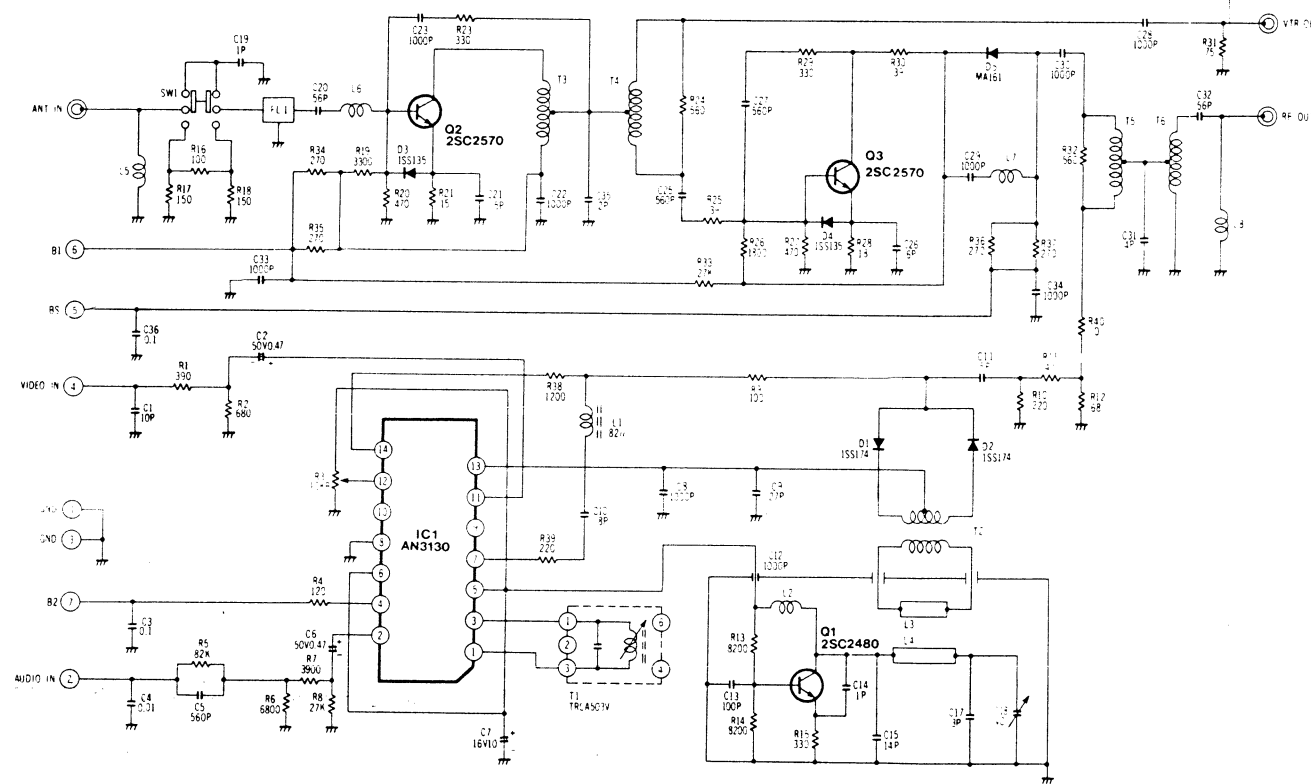
ADDRESS INFORMATION



3-31. RF CONVERTER SCHEMATIC DIAGRAM — UNIT NO. ENC87761, ENC87764 — [NV-730E/EG/EO]

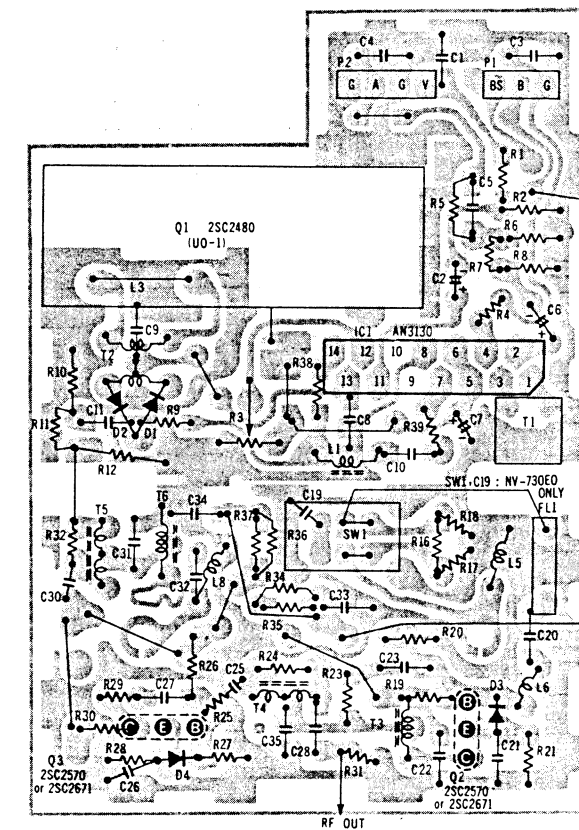


— UNIT NO. ENC87762 — [NV-730B]

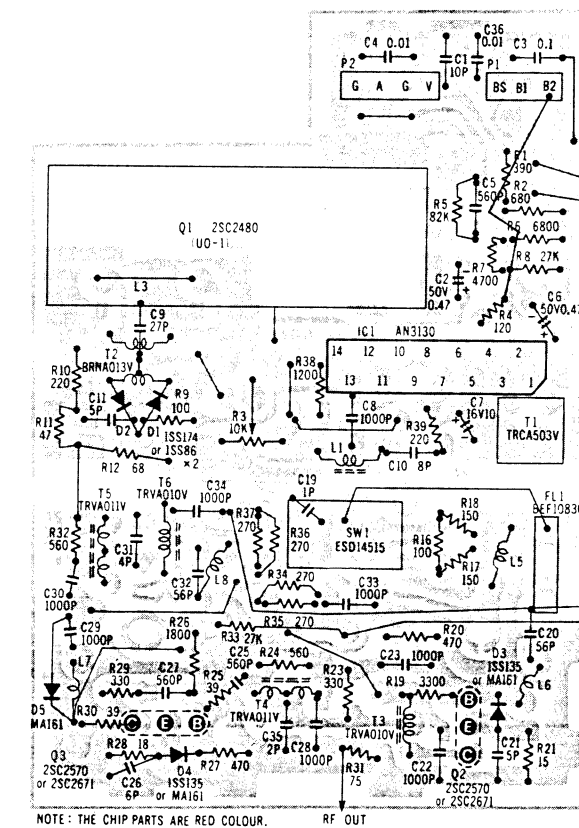


Back Page:
TIMER AND TIMER OPERATION
(NV-730B) Section

3-32. RF CONVERTER CIRCUIT BOARD — UNIT NO. ENC87761, ENC87764 —

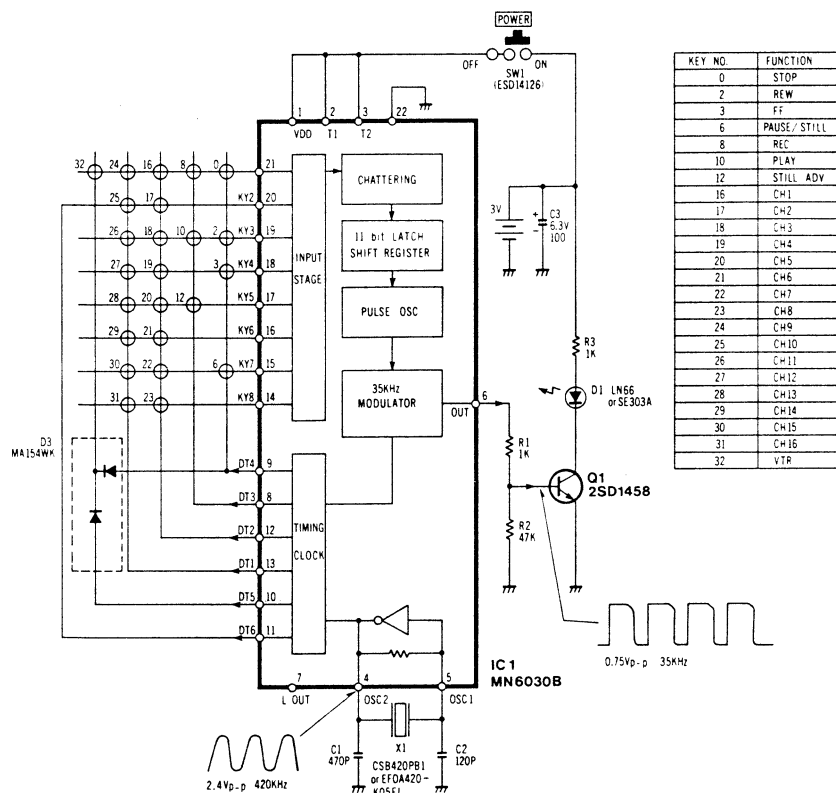


— UNIT NO. ENC87762 —

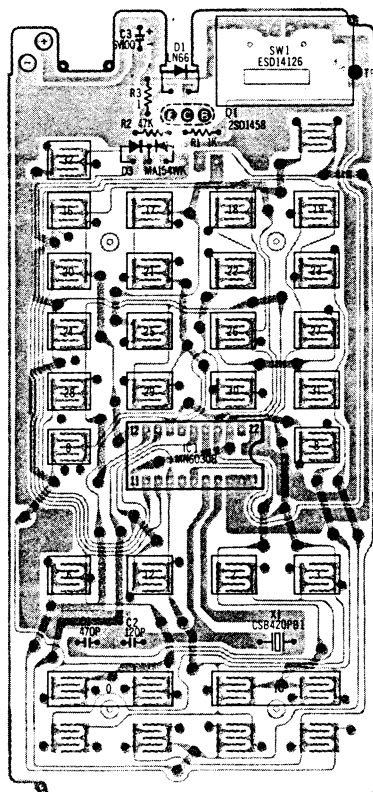


NOTE: THE CHIP PARTS ARE RED COLOUR.

3-33. REMOTE CONTROL SCHEMATIC DIAGRAM & CIRCUIT BOARD



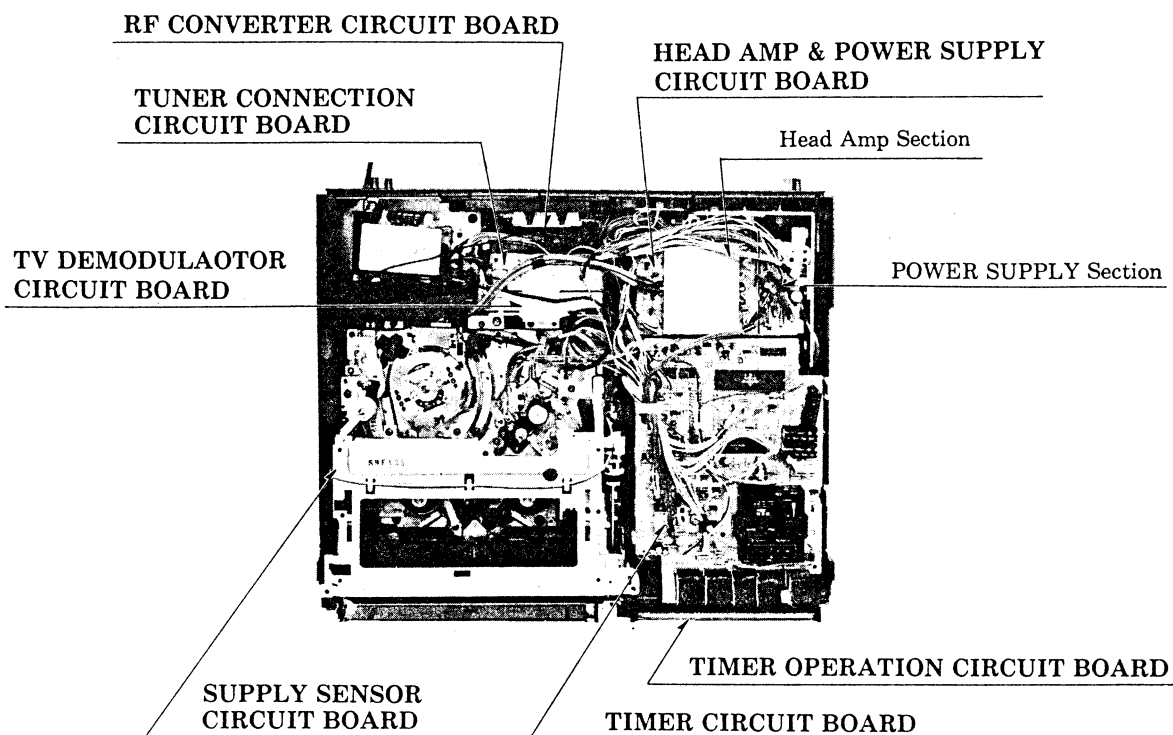
— CIRCUIT BOARD No. VEP0722021C —



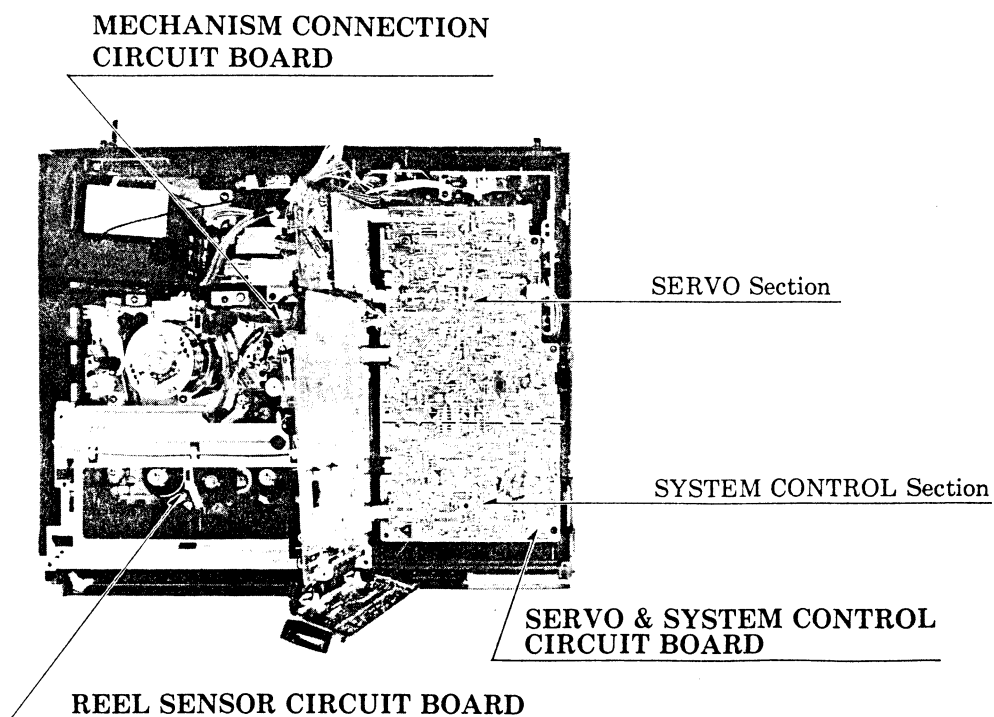
Next Page:
CIRCUIT BOARD LAYOUT
— 1 — Section

3-34. CIRCUIT BOARD LAYOUT — 1 —

TOP VIEW — 1 —



TOP VIEW — 2 —



933. CIRCUIT BOARD EXPLODED VIEW

KEY BOARD UNIT

KEYBOARD CIRCUIT BOARD

BOTTOM VIEW — 1 —

MAIN CIRCUIT BOARD

Luminance Section

Servo (2) Section

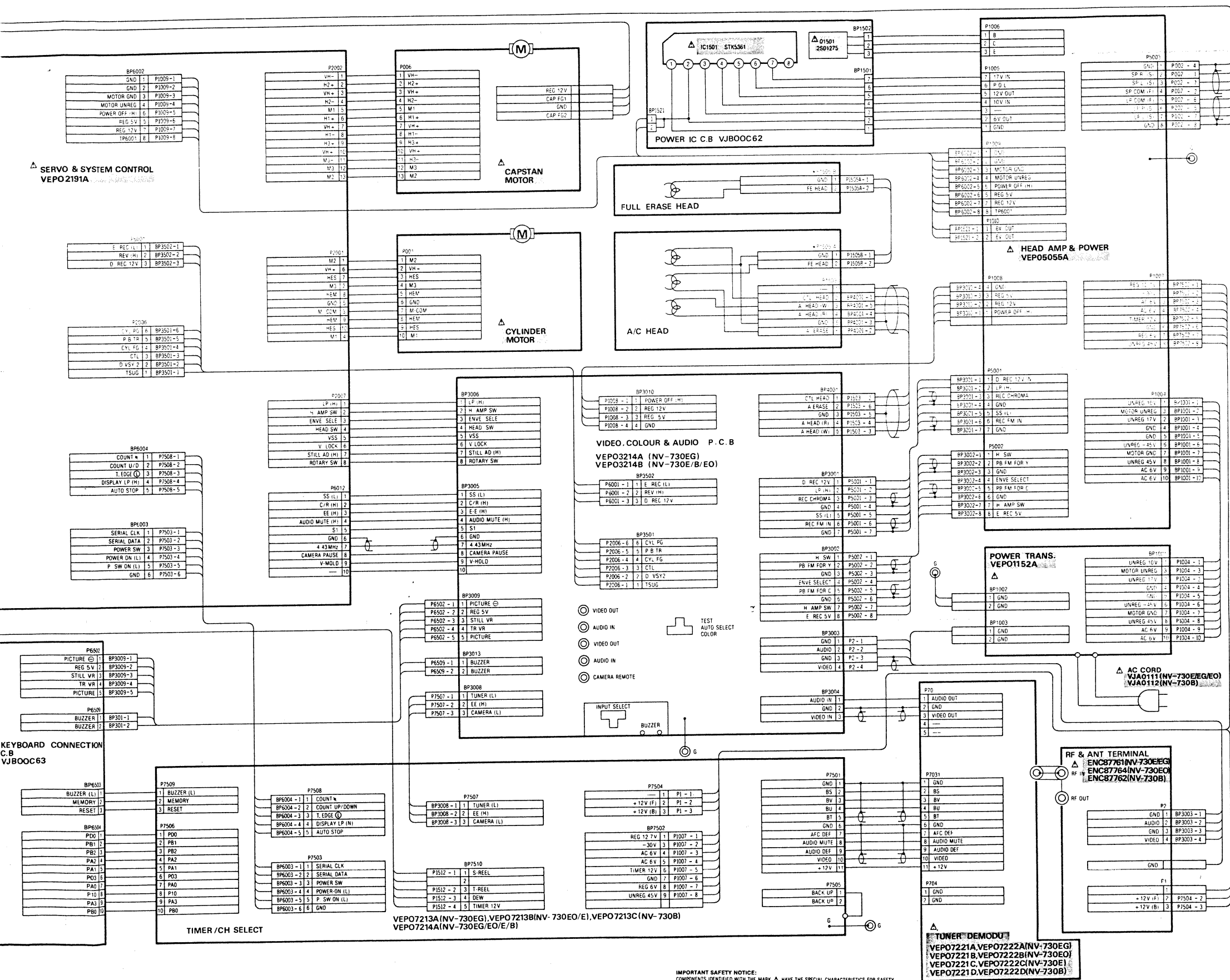
Audio Section

Chrominance Section

BOTTOM VIEW — 2 —

KEYBOARD CONNECTION CIRCUIT BOARD

This technical diagram illustrates the exploded view of a circuit board unit. The top section shows the 'KEY BOARD UNIT' with its 'KEYBOARD CIRCUIT BOARD'. Below this, 'BOTTOM VIEW — 1 —' shows the 'MAIN CIRCUIT BOARD' with four labeled sections: 'Luminance Section', 'Servo (2) Section', 'Audio Section', and 'Chrominance Section'. 'BOTTOM VIEW — 2 —' shows the 'KEYBOARD CONNECTION CIRCUIT BOARD' connected to the main board. The diagram is a high-contrast black and white image.

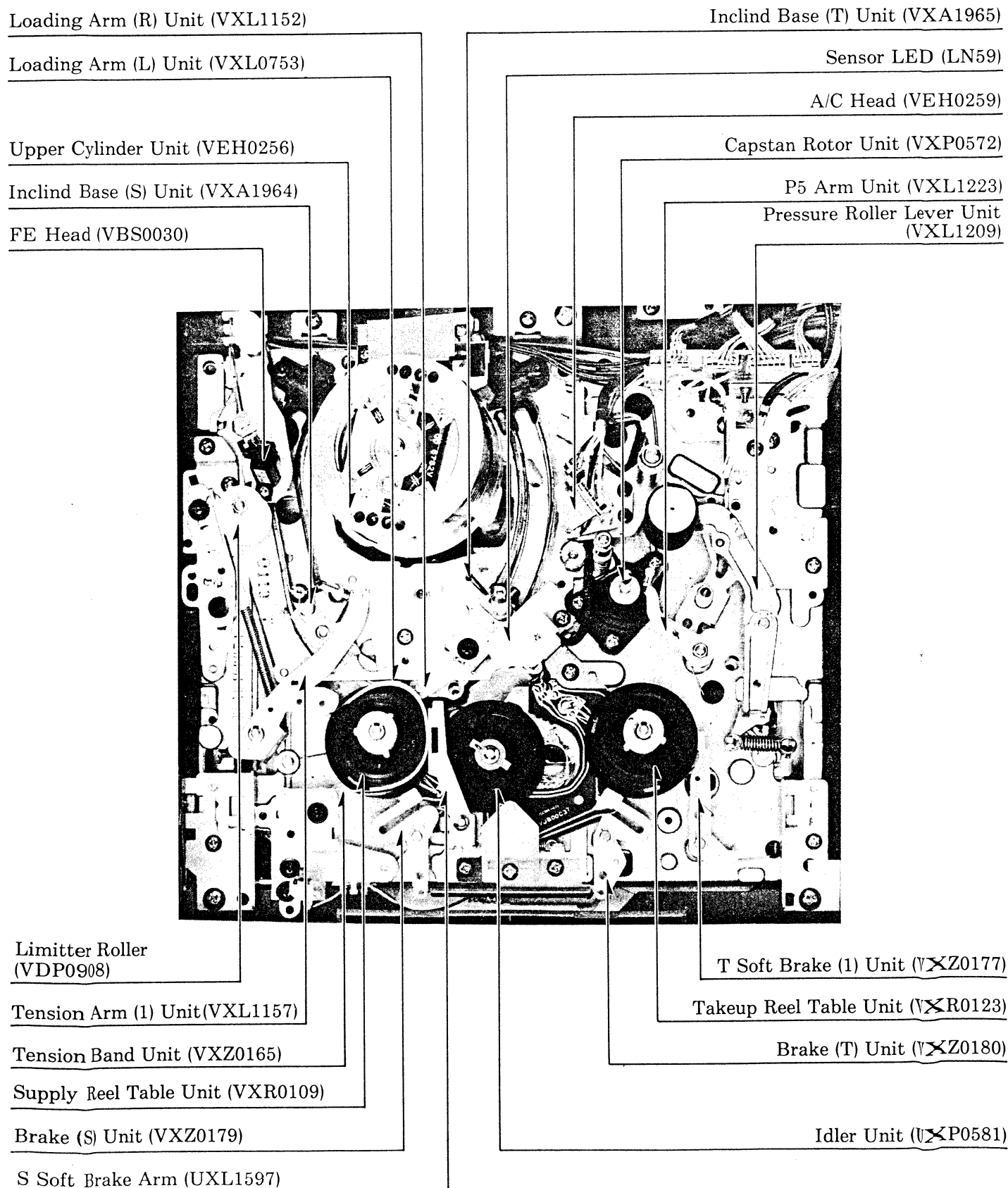


SECTION 4

EXPLODED VIEWS AND REPLACEMENT PARTS LIST

4-1. INNER PARTS LOCATION

TOP VIEW



BOTTOM VIEW

Kick Gear (VDG0178)

Intermediate Gear (VDG0146)

Sector Gear Unit (VXL1168)

Intermediate Gear (B)
(VDG0145)

Cam Gear (VDG0141)

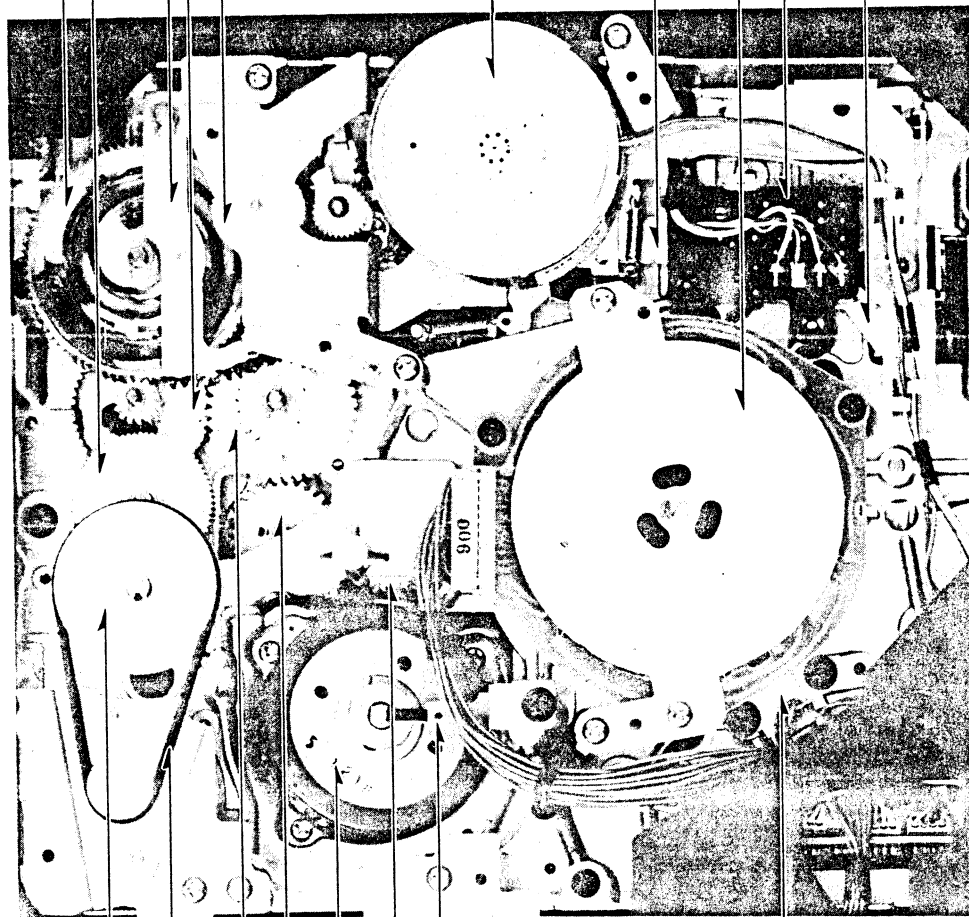
Reel Motor (VEM0212)

Main Lever Unit (UXL1213)

Thrust Angle (VMA6479)

Mode Select Switch Unit
(VES0251)

Sub Lever (1) Unit
(VXL1219)



Intermediate Pully Gear
(VDG0177)

Loading Belt (VDV0152)

Drive Gear (VDG0143)

Loading Gear Unit (VXP0520)

FG Head Unit (VEH0263)

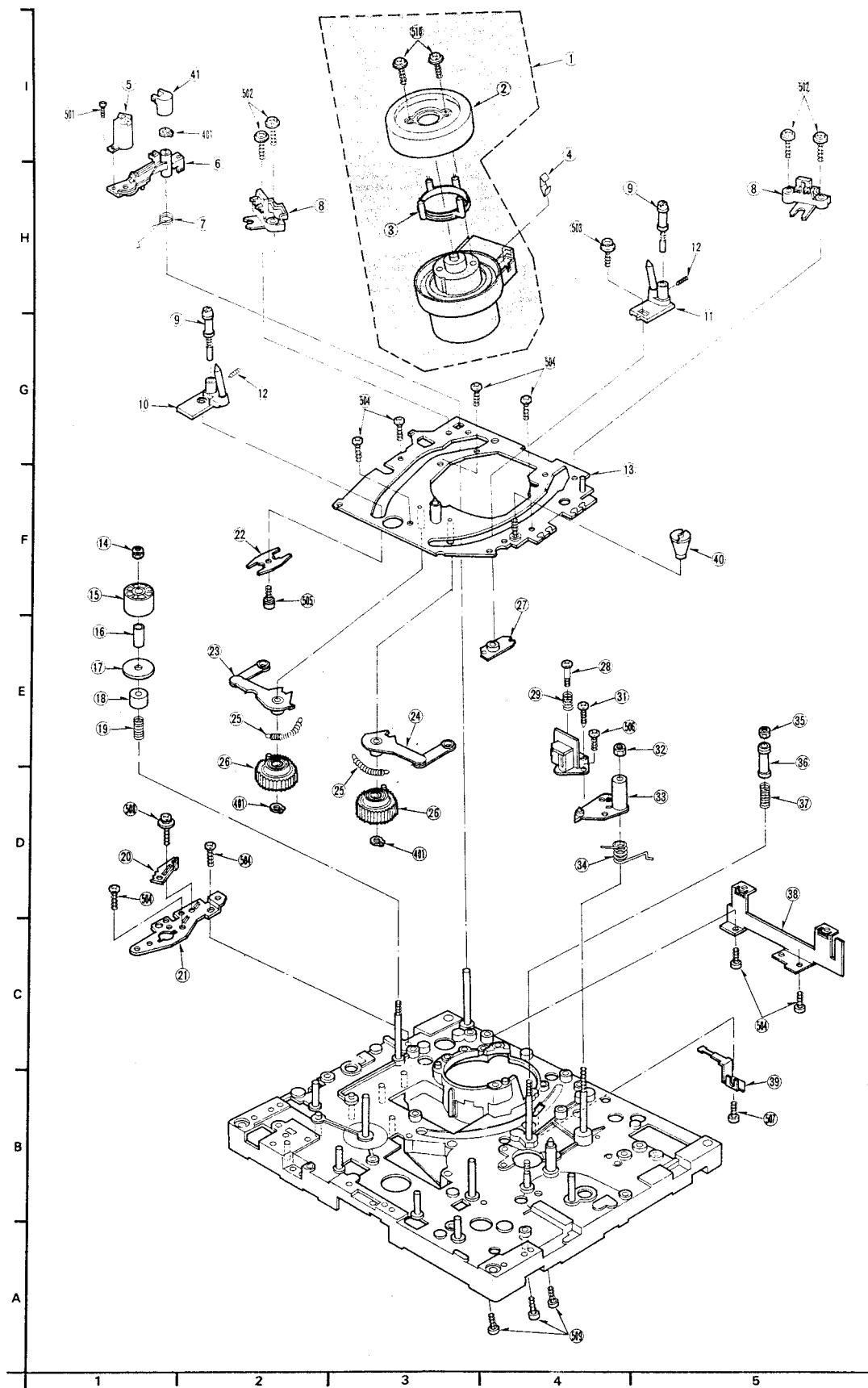
Earth Plate Unit (VXS0059)

Loading Gear Unit (VXP0520)

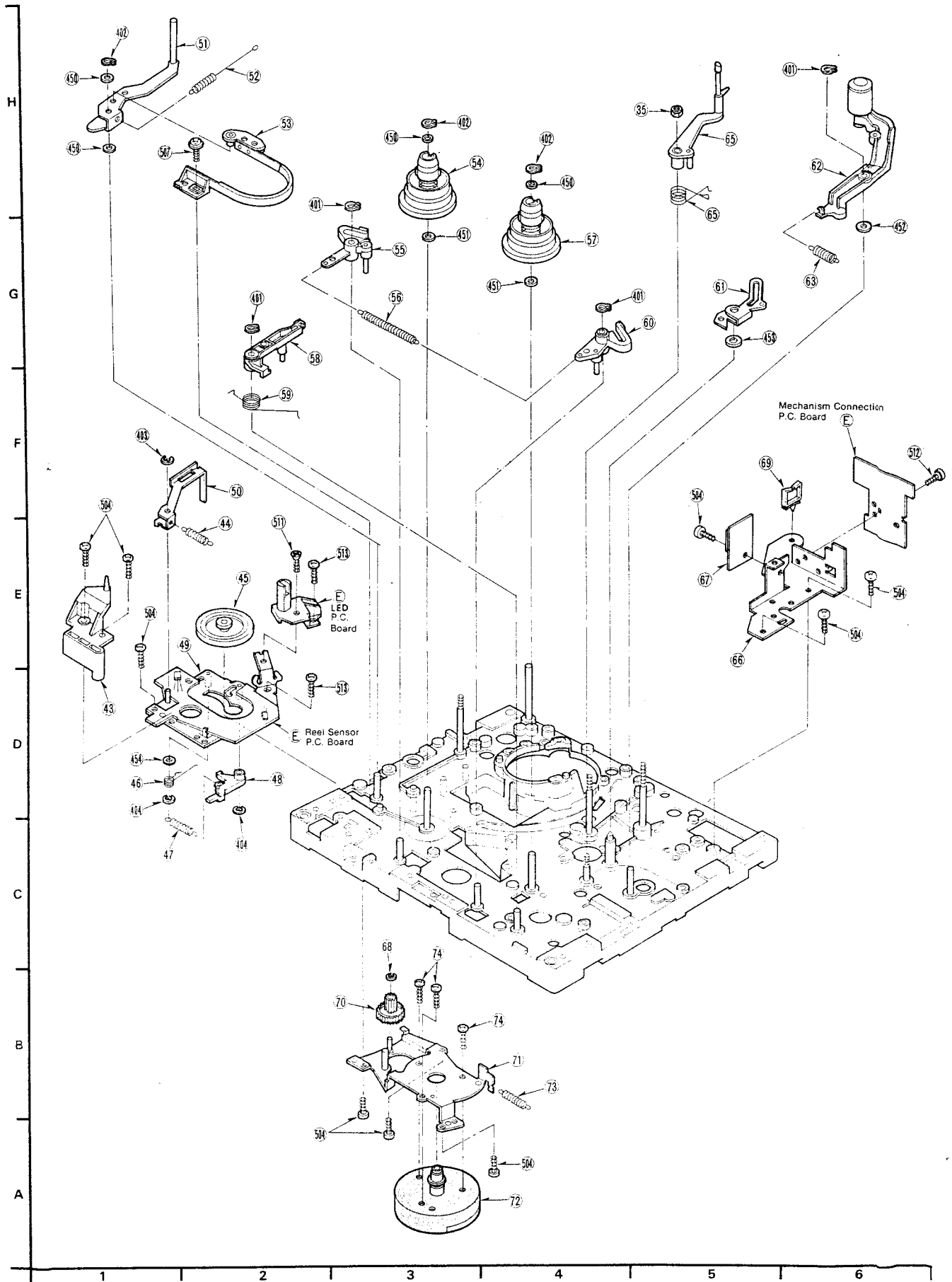
D.D. Cylinder Unit (VEG0341)

4-2. EXPLODED VIEWS

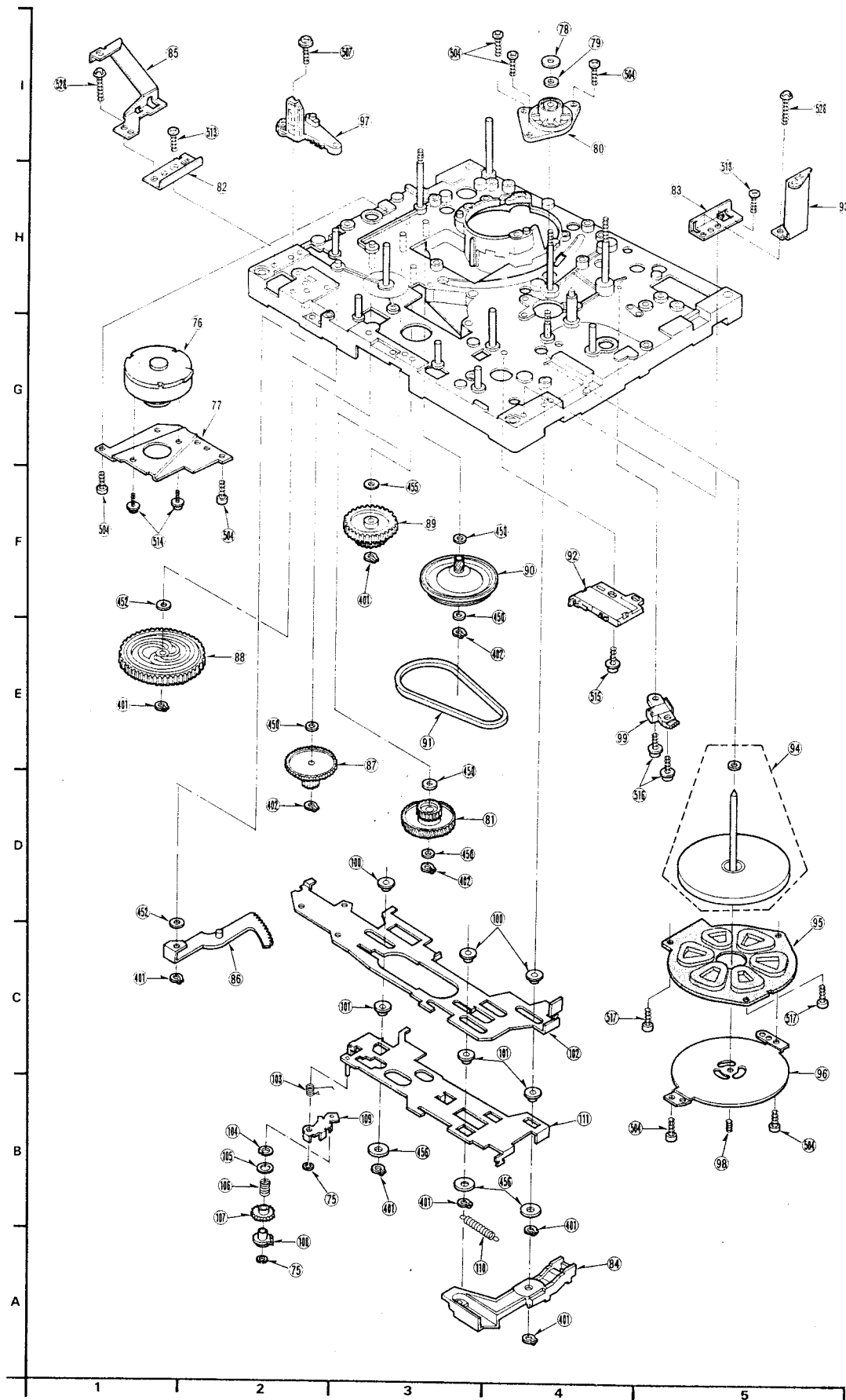
① TRANSPORT SECTION



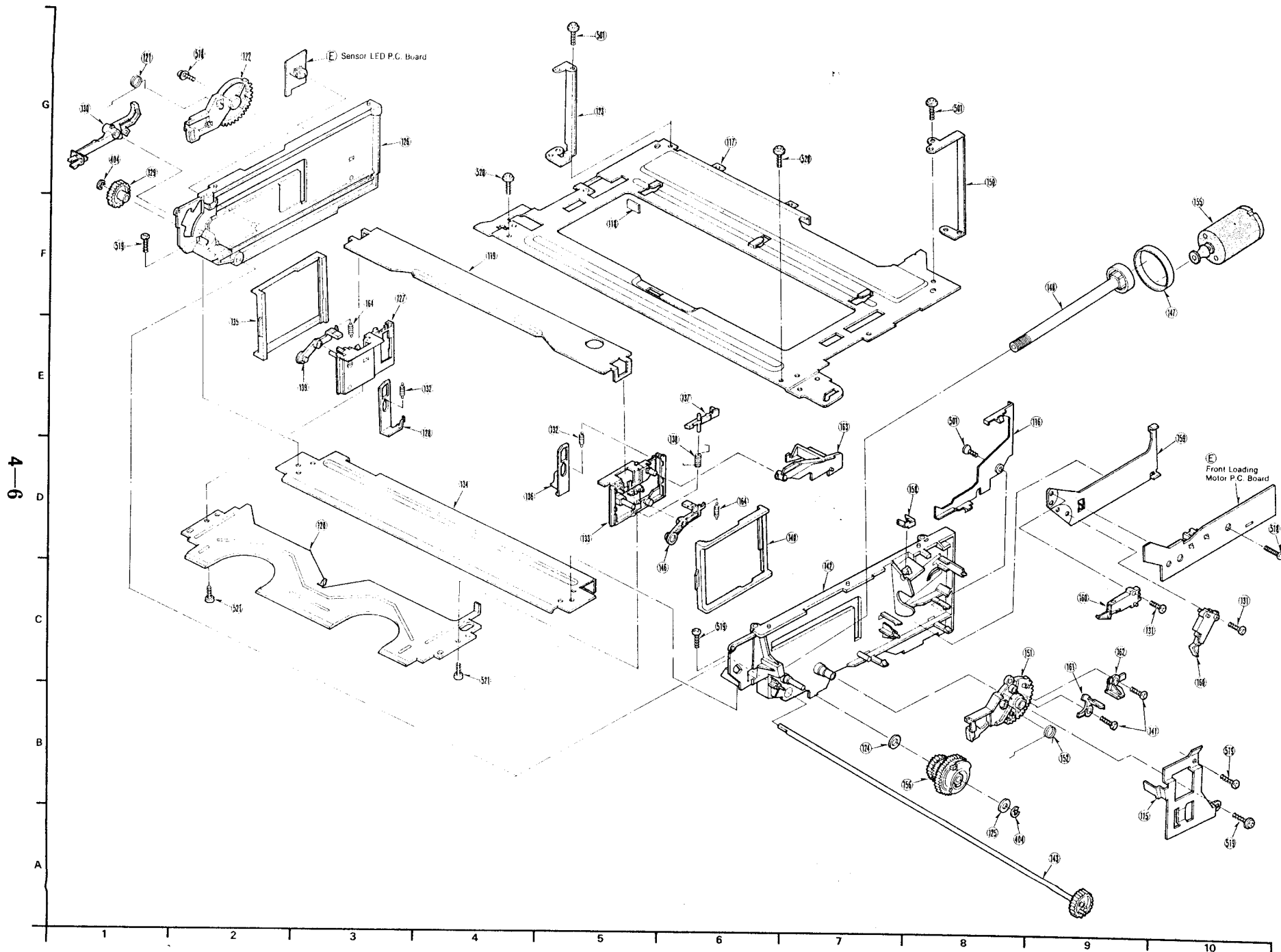
2 MOVING MECHANISM SECTION



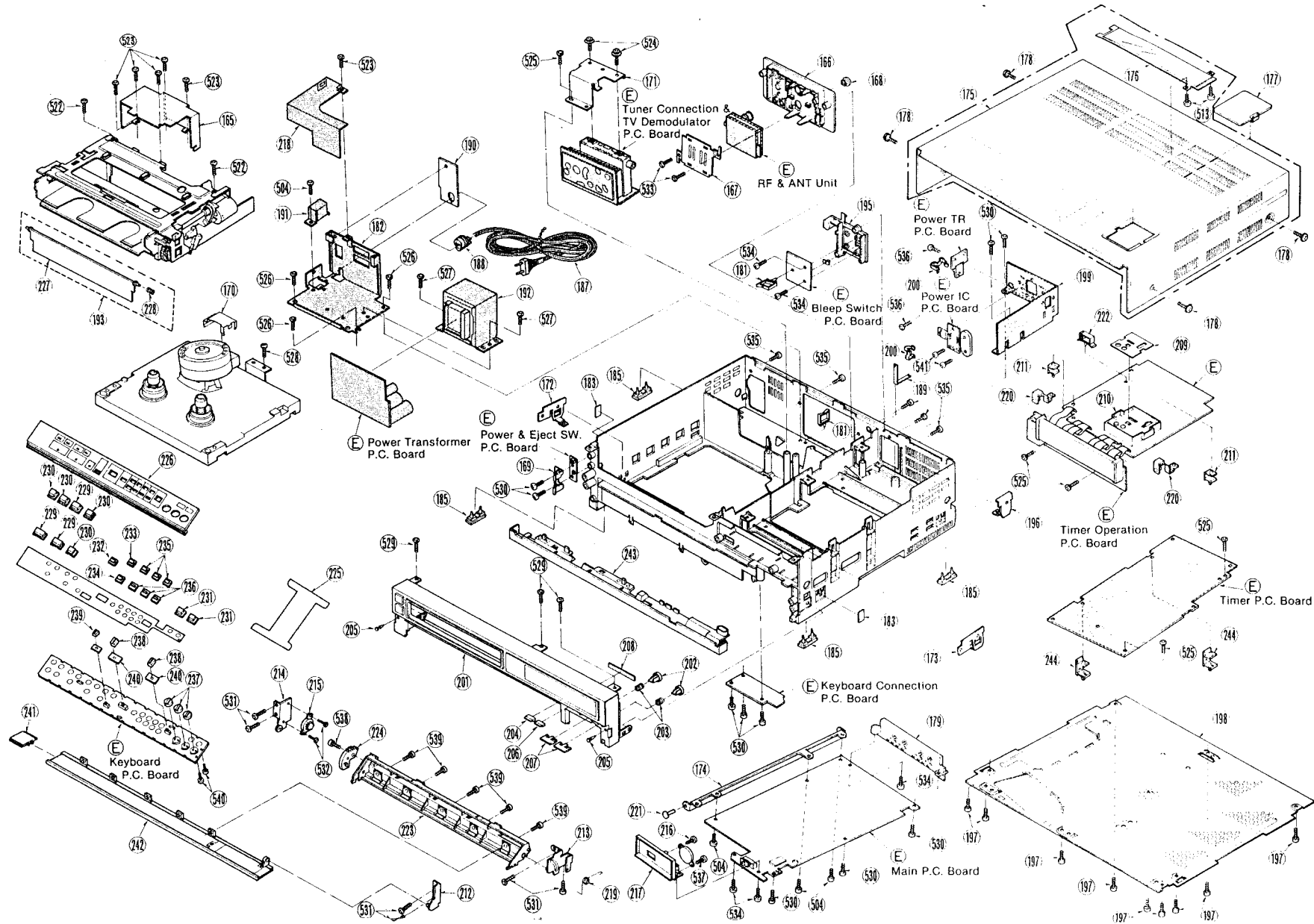
3 CHASSIS PARTS SECTION



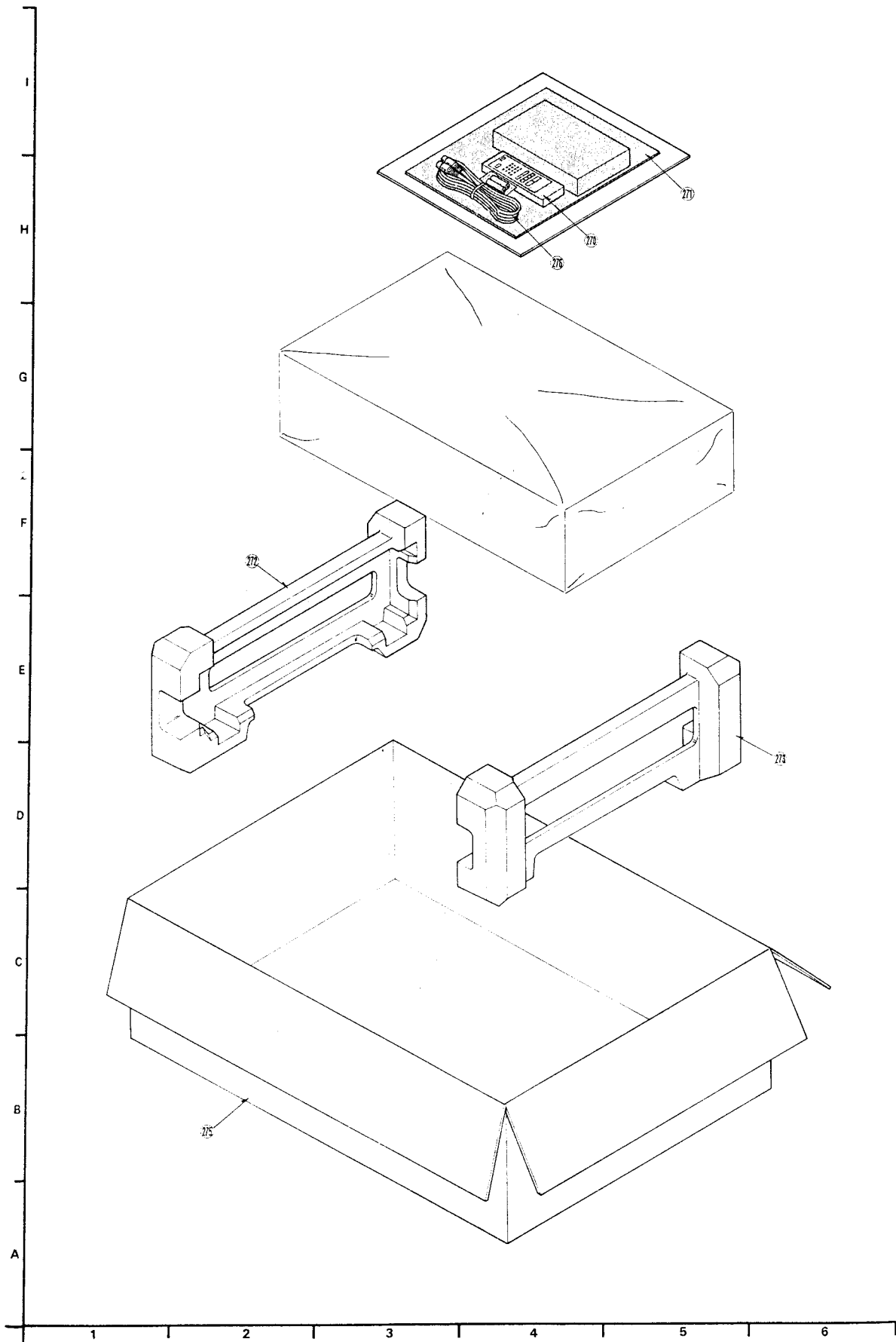
4 CASSETTE UP MECHANISM SECTION



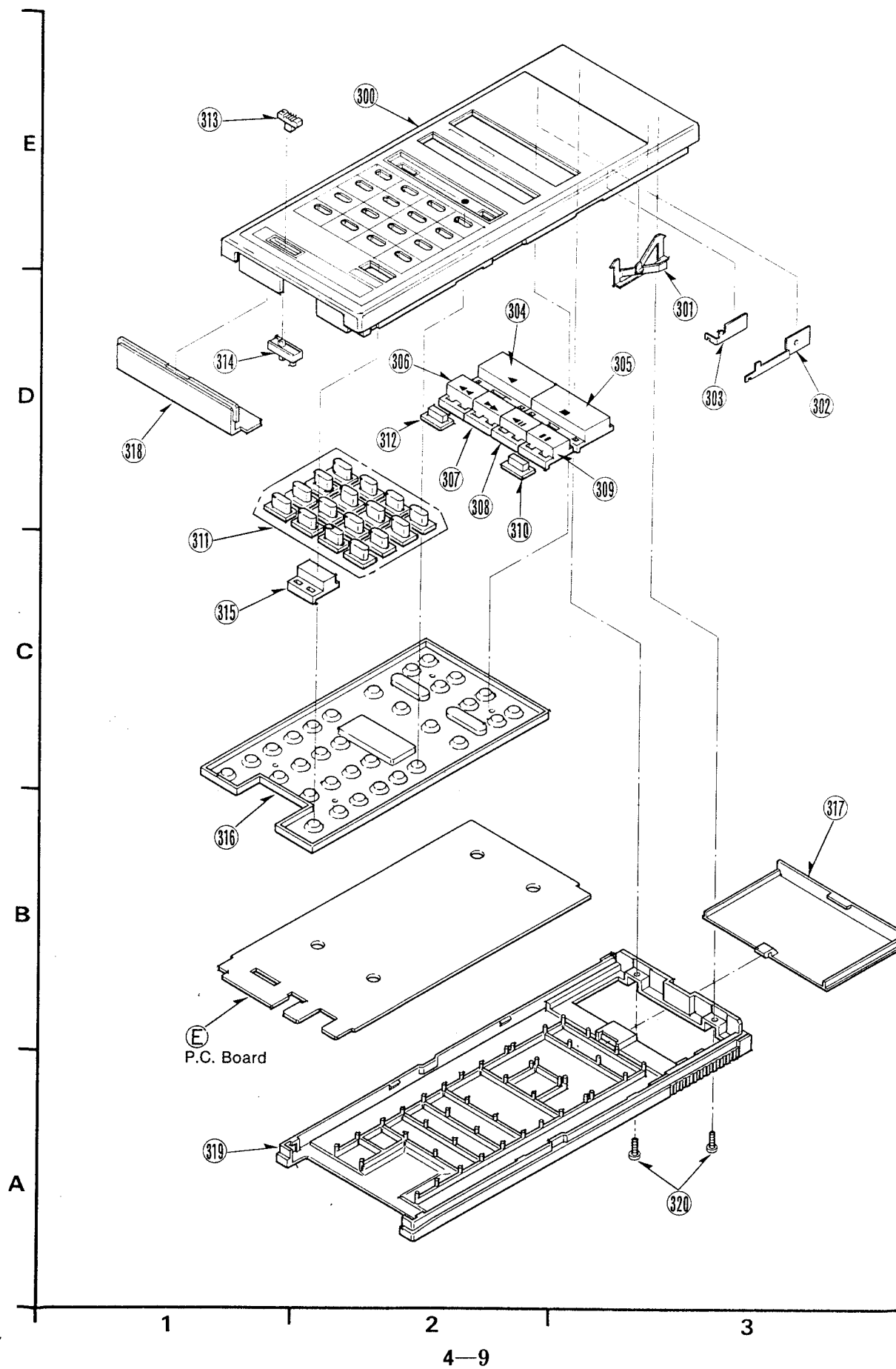
5 CASING PARTS SECTION



6 PACKING PARTS SECTION



7 REMOTE CONTROL SECTION



4-3. MECHANICAL REPLACEMENT PARTS LIST

Notes: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
1(1)	VEG0341	DD Cylinder Unit	1 Δ	
2(1)	VEH0267	Upper Cylinder Unit	1	
3(1)	VJR0082	RT Terminal	1	
4(1)	VMC0047	Spring Board	1	
5(1)	VBS0030	FE Head	1	
6(1)	VML1544	FE Lever	1	
7(1)	VMB1005	FE Lever Spring	1	
8(1)	VMD0570	Post Stopper	2	
9(1)	VXP0444	Roller Post Unit	2	
10(1)	VXA1964	Inclind Base (S) Unit	1	
11(1)	VXA1965	Inclind Base (T) Unit	1	
12(1)	VHD0133	Screw	2	
13(1)	VXA1963	Loading Base (1) Unit	1	
14(1)	VHD0045	Nut	1	
15(1)	VDP0908	Limiter Roller	1	
16(1)	VMX0288	Collar	1	
17(1)	VMX0456	Lower Limiter	1	
18(1)	VMX0663	Limiter Stand	1	
19(1)	VMB0754	Pi Spring	1	
20(1)	VMA6338	Position Adjust Hook	1	
21(1)	VMA6336	Position Plate	1	
22(1)	VMA4436	Shaft Holder Stopper	1	
23(1)	VXL0753	Loading Arm (L) Unit	1	
24(1)	VXL1152	Loading Arm (R) Unit	1	
25(1)	VMB0669	Loading Spring	2	
26(1)	VXP0520	Loading Gear Unit	2	
27(1)	VXA1966	Inclind Adjustment Plate	1	
28(1)	VHD0054	Adjustment Screw (15)	1	
29(1)	VMB1251	Adjustment Spring	1	
30(1)	VEH0259	A/C Head	1	
31(1)	VHD0089B	Azimuth Adjustment Screw	1	
32(1)	VHNOC38	Nylon Nut	1	
33(1)	VXA1571	Head Base Unit	1	
34(1)	VMB1189	A/C Height Spring	1	
35(1,2)	VHN0023	M3 Nylon Nut	2	
36(1)	VMX0647	Post Sleeve	1	
37(1)	VMB1235	P4 Spring	1	
38(1)	VMA6464	Chassis Bracket	1	
39(1)	VXS0059	Earth Plate Unit	1	
40(1)	VHN0031	"X" Adjust Nut	1	
41(1)	VMD0369	Wire Holder	1	
43(2)	VMD0641	Bracket Release Piece	1	
44(2)	VMB1269	S Soft Brake Spring	1	
45(2)	VXP0581	Idler Unit	1	
46(2)	VMB1264	Idler Spring	1	
47(2)	VMB1265	Idler Stopper Spring	1	
48(2)	VML1433	Idler Stopper Lever	1	
49(2)	VXA2089	Idler Base (1) Unit	1	
50(2)	VML1597	S Soft Brake Arm	1	
51(2)	VXL1157	Tension Arm (1) Unit	1	
52(2)	VMB1187	Tension Spring	1	
53(2)	VXZ0165	Tension Band Unit	1	
54(2)	VXR0109	Supply Reel Table Unit	1	
55(2)	VXZ0179	Brake (S) Unit	1	
56(2)	VMB1273	Brake Arm Spring	1	
57(2)	VXR0123	Takeup Reel Table Unit	1	
58(2)	VXZ0177	T Soft Brake (1) Unit	1	
59(2)	VMB1267	Soft Brake Spring	1	
60(2)	VXZ0180	Brake (T) Unit	1	
61(2)	VML1532	P5 Pull Out Lever	1	
62(2)	VXL1209	Pressure Roller Lever Unit	1	
63(2)	VMB1001	Pin Pressure Spring	1	
64(2)	VXL1223	P5 Arm Unit	1	
65(2)	VMB1190	P5 Spring	1	
66(2)	VMA6490	Dew Angle	1	
67(2)	VEK2054	Dew Sensor Unit	1	
68(2)	VMX0521	Washer	1	
69(2)	VJF0004	Saddle	1	
70(2)	VDG0178	Kick Gear	1	
71(2)	VXA2077	Reel Motor Base (1) Unit	1	
72(2)	VEM0212	Reel Motor	1 Δ	
73(2)	VMB1277	Sub Lever Spring (B)	1	
74(2)	VHD0161	Screw	3	
75(3)	VMX0653	Cut Washer	2	
76(3)	VEM0211	Loading Motor	1 Δ	
77(3)	VMA6460	Loading Motor Bracket	1	
78(3)	VMX0251	Oil Seal	1	
79(3)	VMD0104	Oil Pool	1	
80(3)	VXD0091	Housing Unit	1	
81(3)	VDG0146	Intermediate Gear	1	
82(3)	VMA6465	Support Plate (L)	1	
83(3)	VMA6466	Support Plate (R)	1	
84(3)	VXL1204	Stopper Unit	1	
85(3)	VSC1175	Cassette Comp. Angle (L)	1	
86(3)	VXL1168	Sector Gear Unit	1	
87(3)	VDG0145	Intermediate Gear (B)	1	
88(3)	VDG0141	Cam Gear	1	
89(3)	VDG0143	Drive Gear	1	
90(3)	VDG0177	Intermediate Pulley Gear	1	
91(3)	VDV0152	Loading Belt	1	
92(3)	VES0251	Mode Select Switch Unit	1	
93(3)	VSC1174	Cassette Comp. Angle (r)	1	
94(3)	VXP0572	Capstan Rotor Unit	1	
95(3)	VEK2208	Stator Unit	1 Δ	
96(3)	VMA6479	Thrust Angle	1	
97(3)	VES0243	Safety Switch Unit	1	
98(3)	VDV0078	Thrust Screw	1	
99(3)	VEH0263	FG Head Unit	1	
100(3)	VMX0308	Slide Washer	3	
101(3)	VMX0122	Slide Washer (2)	3	
102(3)	VXL1213	Main Lever Unit	1	
103(3)	VMB1263	Arm Lever Spring	1	
104(3)	VMX0672	Cut Washer	1	
105(3)	VMX0644	Washer	1	
106(3)	VMB1184	Clutch Spring	1	
107(3)	VDG0179	Clutch Gear (1)	1	
108(3)	VDG0180	Clutch Gear (2)	1	
109(3)	VXL1217	Arm Lever (1) Unit	1	
110(3)	VMB1276	Sub Lever Spring	1	
111(3)	VXL1219	Sub Lever (1) Unit	1	
115(4)	VMA6474	Slot-In Angle	1	
116(4)	VMD0654	Guide Plate	1	
117(4)	VMA6450	Top Plate	1	
118(4)	VMX0737	Plate Spacer	1	
119(4)	VMA6451	Remains Display Panel	1	
120(4)	VMA6449	Cassette Holder	1	
121(4)	VMB1254	Wiper Spring (L)	1	
122(4)	VML1583	Wiper Arm (L)	1	
123(4)	VSC1143	Shield Bracket (L)	1	
124(4)	XWGV56D10G	Washer	1	
125(4)	VHD0163	Washer	1	
126(4)	VMD0638	Slide Plate (L)	1	
127(4)	VMD0636	Holder Guide (L)	1	
128(4)	VMM0132	Safety Lever (L)	1	
129(4)	VDG0172	Shaft Gear	1	
130(4)	VML1582	Front Opener Lever	1	
131(4)	XYN2+10F	Screw	2	
132(4)	VMB1256	Safety Lever Spring	2	
133(4)	VMD0637	Holder Guide (R)	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
134(4)	VMA6452	Cassette Guide	1		199(5)	VSC1187	Heat Sink	1	
135(4)	VMD0634	Slider (L)	1		200(5)	VMB0758	TR Set Spring	2	
136(4)	VMM0133	Safety Lever (R)	1		201(5)	VYP0986	Front Panel Unit	1	
137(4)	VML1585	Release Lever	1		202(5)	VGQ0527	Button Holder	2	
138(4)	VMB1259	Release Spring	1		203(5)	VMB1175	Button Spring	2	
139(4)	VXL1205	Pressing Lever (L) Unit	1		204(5)	VGU1283	Standby Button	1	
140(4)	VMD0635	Slider (R)	1		205(5)	QBG1210X	Shock Proof Rubber	2	
141(4)	XIW26-T6P	Screw	2		206(5)	VGU1284	OTR Button	1	
142(4)	VXA2084	Side Plate (R) Unit	1		207(5)	VGU1285	CH. UP/DOWN Button	2	
143(4)	VXPO591	Main Shaft Unit	1		208(5)	VMT0106	Button Cushion	1	
146(4)	VXL1206	Pressing Lever (R) Unit	1		209(5)	VGNI993	Preset VR Plate	1	NV-730 E/EG
147(4)	VDO151	Slot-In Belt	1		209(5)	VGN2089	Preset VR Plate	1	NV-730 B
148(4)	VXPO590	Worm Shaft Unit	1		209(5)	VGN2054	Preset VR Plate	1	
150(4)	VSC1144	Shield Blacket (R)	1		210(5)	VGQ0415	Preset VR Case	1	
151(4)	VML1584	Wiper Arm (R)	1		211(5)	VJF0218	Hinge	2	
152(4)	VMB1255	Wiper Spring (R)	1		212(5)	VXA2070	Keyboard Angle (R) Unit	1	
155(4)	VEM0214	Flont Loading Motor	1	▲	213(5)	VXA2071	Keyboard Angle (OTR) Unit	1	
156(4)	VXPO575	Worm Wheel Unit	1		214(5)	VXA2072	Keyboard Angle (L) Unit	1	with #215,#532
158(4)	VMD0648	Worm Stopper	1		215(5)	VDG0181	Dumper	1	
159(4)	VMA6448	Switch Bracket	1		216(5)	VSV0009	Buzzer	1	
160(4)	VSM0050	Skelton Switch	2		217(5)	VJH0305	Buzzer Set Angle	1	
161(4)	VDK0010	Switch Cam 1	1		218(5)	VMZ0573	Barrier	1	▲
162(4)	VDK0011	Switch Cam 2	1		219(5)	VMB1260	Front Door Spring	1	
163(4)	VML1588	Cassette Opener Lever	1		220(5)	VKCO128	Hinge (D)	2	
164(4)	VMB1257	Pressing Lever Spring	2		221(5)	VJF0209	Clip	1	
165(5)	VSC1156	Shield Case	1		222(5)	VJF0102	M-Clamper	1	
166(5)	VJH0288	RF & ANT. Board	1	NV-730 E/EG/EO	223(5)	VGP0983	Keyboard panel Unit	1	
166(5)	VJH0309	RF & ANT. Board	1	NV-730 B	224(5)	VDG0176	Dumper Gear Unit	1	
167(5)	VMA6381	RF & ANT. Unit Mount Angle	1		225(5)	VWJ0164	Flexible Jumper	1	
168(5)	VMG0272	Converter Rubber Bushing	1		226(5)	VYK0733	Case Unit	1	
169(5)	VMP0471	Switch Angle	1		227(5)	VFK0405	Blinder Panel	1	
170(5)	VSC1047	Cylinder Shield Case	1		228(5)	VMB1258	Blinder Panel Spring	1	
171(5)	VMP0429	Demodu. Set Angle	1	NV-730 E/EG/EO	229(5)	VGQ0672	Button (A)	3	Play,Stop,Pause
171(5)	VMP0470	Demodu. Set Angle	1	NV-730 B	230(5)	VGQ0673	Button (B)	4	FF,REW,S-ADV,REC
172(5)	VMP0463	Top Case Support Angle (R)	1		231(5)	VGQ0675	Button (C)	2	Reset,Memory
173(5)	VMP0464	Top Case Support Angle (L)	1		232(5)	VGU1480	Program Button	1	
174(5)	VMP0432	Main P.C.Board Angle	1		233(5)	VGU1481	"ON" Button	1	
175(5)	VYP0984	Top Panel Unit	1		234(5)	VGU1482	"OFF" Button	1	
176(5)	VKM0327	Top Smooke Board	1		235(5)	VGU1483	"-" Button	3	
177(5)	VKF0267	Preset Cover	1	NV-730 E/EG/EO	236(5)	VGU1484	"+" Button	3	
177(5)	VKF0268	Preset Cover	1	NV-730 B	237(5)	VGU1346	VR Knob	3	
178(5)	VHD0155	Screw	4		238(5)	VGU1345	Switch Knob	2	Timer Select,Timer Rec
179(5)	VBJ0342	Rear Jack Unit	1		239(5)	VGU1344	SP/LP Switch Knob	1	
181(5)	VJF0022	Wire Saddle	3		240(5)	VGF0118	Sheet (A)	2	
182(5)	VMP0460	Power Transformer Angle	1	▲	241(5)	VKF0384	Case Unit Stopper	1	
183(5)	VMT0085	Rubber Cushion	2		242(5)	VYK0376	Front Door Unit	1	
185(5)	VKA0026	Rubber Foot	4		243(5)	VGP0984	Front Lower Panel	1	
186(5)	VKC0068	Hinge	2		244(5)	VKCO129	Hinge (E)	2	
187(5)	VJA0111	AC Cord	1	▲ NV-730 E/EG/EO	270(6)	VSC0357	Remote Control Unit	1	
187(5)	VJA0112	AC Cord	1	▲ NV-730 B	271(6)	VQF1207	Fan Bag Kit	1	NV-730 E/G
188(5)	VJF0107	AC Cord Bushing	1	▲ NV-730 E/EG/EO	271(6)	VQF1213	Fan Bag Kit	1	NV-730 E/G
188(5)	VJF0206	AC Cord Bushing	1	▲ NV-730 B	271(6)	VQF1209	Fan Bag Kit	1	NV-730 E
189(5)	VJF0139	AC Cord Clumper	1		271(6)	VQF1206	Fan Bag Kit	1	NV-730 B
190(5)	VJH0277	AC Cord Plate	1		272(6)	VPN1083	Cushion (R)	1	
191(5)	VMP0431	Sub Transformer Angle	1		273(6)	VPN1084	Cushion (L)	1	
192(5)	ETP72PS8E	Power Transformer	1	▲ NV-730 E/EG/EO	275(6)	VPG1566	Packing Case	1	NV-730 E/G
192(5)	ETP72PS9E	Power Transformer	1	▲ NV-730 B	275(6)	VPG1729	Packing Case	1	NV-730 E/G
193(5)	VYF0436	Brind Panel (L) Unit	1		275(6)	VPG1732	Packing Case	1	NV-730 E
195(5)	VJH0307	Sub Rear Plate	1		275(6)	VPG1733	Packing Case	1	NV-730 B
196(5)	VMP0462	Top Case Support Angle (B)	1		276(6)	VJA0217	DIN-RF Cable	1	
197(5)	VHD0059	Screw	9						
198(5)	VKU0208	Bottom Plate	1						

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
300(7)	VYK0703	Top Case Unit	1		527(5)	XTV4-8F		2	
301(7)	VJR0101	Electrode (Common)	1		528(3,5)	XTV4+15A		2	
302(7)	VJR0100	Electrode (-)	1		529(5)	XTW3+10PR		3	
303(7)	VJR0099	Electrode (-)	1		530(5)	XTV3+10GR		10	
304(7)	VGU1288	Play Button	1		531(5)	XTV3+10GFZ		6	
305(7)	VGU1289	Stop Button	1		532(5)	XSN2-4		2	
306(7)	VGU1293	FF Button	1		533(5)	XTV3+10J		2	
307(7)	VGU1292	Rew Button	1		534(5)	XTV3+8G		5	
308(7)	VGU1291	F.Adv Button	1		535(5)	XTV3+10JFZ		5	
309(7)	VGU1290	Still Button	1		536(5)	XTV3+8J		2	
310(7)	VGU1212	Rec Button A (Red)	1		537(5)	XYN2-6G		2	
311(7)	VGU1326	CH. Select & Rec B Button	1		538(5)	XTV3+10FZ		1	
312(7)	VGU1619	Rec B Button	1		539(5)	XTN3+6JK		5	
313(7)	VGU1213	Power Button	1		540(5)	XTB2-6G		2	
314(7)	VGO0601	Button Holder	1		541(5)	XTV3+14G		2	
315(7)	VGU1294	VTR Button	1			VKH0105	Fook	1	NV-730 B
316(7)	VSP0150	Rubber Contact	1			XNG3D	Nut	2	NV-730 B
317(7)	VKF0340	Battery Cover	1						
318(7)	VKW0297	Smoke Board	1						
319(7)	VYK0704	Bottom Case Unit	1						
320(7)	XTB2-5GFZ	Screw	2						
		Washer & Rings							
401(1,2,3)	XUEV4VW		14						
402(2,3)	XUEV3VW		6						
403(2)	XUC3FR		1						
404(2,4)	XUC25FP		4						
450(2,3,4)	XWGV3D6G		10						
451(2)	XWGV3D8G		2						
452(2,3)	XWGV4D9G		3						
453(2)	XWGV6F9G		1						
454(2)	XWGV4Y7G		1						
455(3)	XWGV4Y6G		1						
456(3)	XWGV4D11G		3						
		Screw							
501(1,4)	XTN26-6G		3						
502(1)	VHD0147		4						
503(1)	XYN3+8FZS		1						
504(1,2,3,5)	XTV3+8F		28						
505(1)	XYN3+C4S		1						
506(1)	XSN3D10FZS		1						
507(1,2,3)	VHD0149		3						
508(1)	XYN3+F6FZS		1						
509(1)	XYN3+C8S		3						
510(1)	XSN3+10S		2						
511(2)	XSS26-6		1						
512(2)	XYE3+EF8		1						
513(2,3,5)	XTV3+6F		6						
514(3)	VHD0146		2						
515(3)	VHD0148		1						
516(3)	XYE3+BF8FZ		1						
517(3)	XTV3+8FFZ		2						
518(4)	VHD0163		2						
519(4)	XTV26+6FFZ		4						
520(4)	XTB26+6J		2						
521(4)	XTB26+6JFZ		2						
522(5)	XTV3+8FR		2						
523(5)	XTV3+8JR		6						
524(5)	XTN3+C6		2						
525(5)	XTV4+10GR		6						
526(5)	XTV4+10A		3						

4-4. ELECTRICAL REPLACEMENT PARTS LIST

Notes: 1. • Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE
 Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Unless otherwise specified,
 All resistors are in OHMS (Ω), 1/4W $\pm 5\%$ carbon. K=1,000, M=1,000K. All capacitors are in MICROFARADS (μF), $\pm 10\%$ P= μF .

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP03214A	Main (Luminance & Chrominance, Audio, Servo (2)) P.C.Board Unit	1	NV-730 EG
	VEP03214B	Main (Luminance & Chrominance, Audio, Servo (2)) P.C.Board Unit	1	NV-730 E/B/EO
	VEP02191A	Servo & System Control P.C.Board Unit	1	Δ
	VEP05055A	Head Amp & Power Supply P.C.Board Unit	1	Δ
	VEP07221A	TV Demodulator P.C.Board Unit	1	NV-730 EG
	VEP07221B	TV Demodulator P.C.Board Unit	1	NV-730 EO
	VEP07221C	TV Demodulator P.C.Board Unit	1	NV-730 E
	VEP07221D	TV Demodulator P.C.Board Unit	1	NV-730 B
	VEP07222A	Tuner Connection P.C.Board Unit	1	NV-730 EG
	VEP07222B	Tuner Connection P.C.Board Unit	1	NV-730 EO
	VEP07222C	Tuner Connection P.C.Board Unit	1	NV-730 E
	VEP07222D	Tuner Connection P.C.Board Unit	1	NV-730 B
	VEP07213A	Timer P.C.Board Unit	1	NV-730 EG
	VEP07213B	Timer P.C.Board Unit	1	NV-730 E/EO
	VEP07213C	Timer P.C.Board Unit	1	NV-730 B
	VEP07214A	Timer Operation P.C.Board Unit	1	
	VEP01132A	Power Transformer P.C. Unit	1	Δ
	ENC87761	RF Converter Unit	1	NV-730 E/EG Δ
	ENC8776A	RF Converter Unit	1	NV-730 EO Δ
	ENC87762	RF Converter Unit	1	NV-730 B Δ
	VEP00C63A	Keyboard Connection P.C. Unit	1	
	VJB00C62A	Power IC P.C.Board	1	
	VJB00C93	Power TR P.C.Board	1	
	VJB00C47	IR LED P.C.Board	1	
	VJB00C84	Mechanism Connection P.C.Board	1	
	VJB00C37	Reel Sensor P.C.Board	1	
	VJB00C48	LED P.C.Board	1	
	VJB00C39	Front Loading Motor P.C.Board	1	
	VJB00C92	Power/Eject SW. P.C.Board	1	
	VJB00C65	Beep SW. P.C.Board	1	
	VJB00C40	Supply Sensor P.C.Board	1	
	VEP03214A/B	Main (Luminance & Chrominance, Audio, Servo (2)) P.C.Board Unit	1	
		(Servo (2) Section)		
		Integrated Circuit		
IC2501	AN6356N		1	
		Diodes		
D2501-2504	MA165		4	
		Resistors		
R2501	ERDS2TJ153		15k 1	
R2502	ERDS2TJ221		220 1	
R2503	ERDS2TJ102		1k 1	
R2504	ERDS2TJ223		22k 1	
R2505	ERDS2TJ222		2200 1	
R2506	ERDS2TJ220		22k 1	
R2507	ERDS2TJ332		3300 1	
R2508	ERDS2TJ333		33k 1	
R2509	ERDS2TJ473		47k 1	
R2510	ERDS2TJ332		3300 1	
		Variable Resistors		
VR2001	EYN61AA00B54		50k 1	
VR2002	EYN61AA00B15		100k 1	
VE2003E	EYN61AA00B15		100k 1	
VR2009, 2010	EVTK4CA00B15		100k 2	
VR2011	EYN61AA00B15		100k 1	
		Capacitors		
C2501	ECQV1H683JZ	Mylar	50V 0.068 1	
C2502	ECVQ1H334JZ	Mylar	50V 0.33 1	
C2503	ECEA1AK101	Electrolytic	10V 100 1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C2504	ECEA0JK470	Electrolytic 6.3V 47	1		R3021	ERSA39J101	Metal	100	1
C2505	ECEA1CK100	Electrolytic 16V 10	1		R3022	ERDS2TJ122		1200	1
C2506	ECEA1CK010	Electrolytic 16V 1	1		R3023	ERTD2ZHL103		10k	1
C2507	ECKF1H472ZF	Ceramic 50V 4700p	1		R3024	ERDS2TJ102		1k	1
C2508	ECEA0JK101UJ	Electrolytic 6.3V 100	1		R3025	ERDS2TJ821		820	1
					R3026	ERDS2TJ182		1800	1
		Combination Circuit			R3027	ERDS2TJ101		100	1
		(Resistor & Capacitor)			R3028,3029	ERDS2TJ223		22k	2
CR2501	EXED223M222C	0.022, 2.2k	1		R3030	ERDS2TJ221		220	1
					R3031	ERDS2TJ222		2200	1
		(Luminance Section)			R3032	ERDS2TJ102		1k	1
					R3033	ERDS2TJ562		5600	1
		P.C.Board Assy			R3034	ERDS2TJ152		1500	1
IC3001	VEFY007		1		R3035	ERDS2TJ272		2700	1
					R3036	ERDS2TJ122		1200	1
		Integrated Circuits			R3037	ERDS2TJ152		1500	1
IC3002	uPC1517CA		1		RR3045,3046	ERDS2TJ750		75	2
IC3004	BA7004		1		R3047	ERDS2TJ102		1k	1
					R3052	ERDS2TJ561		560	1
		Transistors			R3053	ERDS2TJ152		1500	1
Q3001	2SD636		1		R3054	ERDS2TJ473		47k	1
Q3002	2SC2206		1		R3055	ERDS2TJ102		1k	1
Q3003	2SD636		1		R3056	ERDS2TJ681		680	1
Q3004	2SC2206		1		R3058	ERDS2TJ562		5600	1
Q3006	2SB641		1		R3060	ERDS2TJ474		470k	1
					R3061	ERDS2TJ394		390k	1
					R3063	ERDS2TJ393		39k	1
		Combination Circuits			R3064	ERDS2TJ122		1200	1
					R3065	ERDS2TJ151		150	1
		(Transistor & Resistor)			R3067	ERDS2TJ334		330k	1
QR3001,3002	DTC144A		2 or UN1213		R3068	ERDS2TJ154		150k	1
QR3004	DTC144A		1 or UN1213						
QR3005	DTA144A		1 or UN1113						
QR3006-3008	DTC144A		3 or UN1213						
		Diodes					Variable Resistors		
D3001-3005	MA165		5		VR3009	EVN61AA00B13		1k	1
D3010-3013	MA165		4		VR3010	EVN61AA00B53		5k	1
		Resistors					Capacitors		
R3001	ERDS2TJ332	3300	1		C3001	ECCF1H220JC	Ceramic 50V 22p	1	
R3002,3003	ERDS2TJ103	10k	2		C3002	ECCF1H680JC	Ceramic 50V 68p	1	
R3004	ERDS2TJ182	1800	1		C3003	ECEA1CK100	Electrolytic 16V 10	1	
R3005	ERDS2TJ682	6800	1		C3004	ECEA1EK3R3	Electrolytic 25V 3.3	1	
R3006	ERDS2TJ103	10k	1		C3005	ECEA1HK2R2	Electrolytic 50V 2.2	1	
R3007	ERDS2TJ122	1200	1		C3006	ECEA1EK4R7	Electrolytic 25V 4.7	1	
R3008	EROS2CKG1601	Metal 1600	1		C3007	ECEA1HK2R2	Electrolytic 50V 2.2	1	
R3009	ERDS2TJ123	12k	1		C3008	ECEA1AK470UJ	Electrolytic 10V 47	1	
R3010	ERDS2TJ183	18k	1		C3009	ECQV1H104JZ	Mylar 50V 0.1	1	
R3011	ERDS2TJ102	1k	1		C3010	ECEA1AU471	Electrolytic 10V 470	1	
R3012	ERDS2TJ124	120k	1		C3011	VCYF1E473KR	Semiconductor 25V 0.047	1	
R3013	ERDS2TJ822	8200	1		C3012	ECEA1CK100	Electrolytic 16V 10	1	
R3014	ERDS2TJ103	10k	1		C3013	ECEA1HK010	Electrolytic 50V 1	1	
R3015	ERDS2TJ180	18	1		C3014	ECEA1HKN010	Electrolytic 50V 1	1	
R3016	ERDS2TJ681	680	1		C3015	ECEA1EK3R3	Electrolytic 25V 3.3	1	
R3017	ERDS2TJ472	4700	1		C3016	ECQV1H272JZ	Mylar 50V 2700p	1	
R3018	ERDS2TJ681	680	1		C3017	ECEA1HK010	Electrolytic 50V 1	1	
R3019	ERDS2TJ391	390	1		C3018	ECKF1H121KB	Ceramic 50V 120p	1	
R3020	ERDS2TJ101	100	1		C3019	ECCF1H680JC	Ceramic 50V 68p	1	
					C3020	ECEA1AK470UJ	Electrolytic 10V 47	1	
					C3021,3022	ECKF1H103ZF	Ceramic 50V 0.01	2	
					C3023	ECV12W20X64T	Trimmer 500V 20p	1	
					C3024	ECCF1H560JC	Ceramic 50V 56p	1	
					C3025,3026	ECCF1H330JC	Ceramic 50V 33p	2	
					C3027	ECCF1H1000C	Ceramic 50V 10p	1	
					C3028	ECCF1H0600C	Ceramic 50V 6p	1	
					C3029	ECEA1CKN220	Electrolytic 16V 22	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R8047	ERDS2TJ122		1200	1	C8047	ECQV1H274JZ	Mylar 50V 0.27	1	
R8048	ERDS2TJ153		15k	1	C8048	ECKF1H471KB	Ceramic 50V 470p	1	
R8049	ERDS2TJ102		1k	1	C8049	ECQV1H104JZ	Mylar 50V 0.1	1	
R8050	ERDS2TJ151		150	1	C8050	ECKF1H391KB	Ceramic 50V 390p	1	
R8051	ERDS2TJ473		47k	1	C8051	ECKF1H221KB	Ceramic 50V 220p	1	
R8052	ERDS2TJ683		68k	1					
R8053	ERDS2TJ103		10k	1					
R8054	ERDS2TJ273		27k	1			Delay Lines		
R8055	ERDS2TJ332		3300	1	DL8001	EFDBR124A13B		1	
R8056	ERDS2TJ272		2700	1	DL8002	VLD0052		1	
R8057,8058	ERDS2TJ472		4700	2					
R8059	ERDS2TJ332		3300	1			Filters		
R8060	ERDS2TJ392		3900	1	FL8001	VLFO299		1	
R8061	ERDS2TJ223		22k	1	FL8002	VLFO143		1	NV-730 EG
R8063	ERDS2TJ154		150k	1					
R8064	ERDS2TJ103		10k	1					
R8065	ERDS2TJ102		1k	1			Coils		
R8066	ERDS2TJ562		5600	1	L8001	VLQEL05F150K	15μH	1	
R8067,8068	ERDS2TJ272		2700	2	L8002	VLQEL05F470K	47μH	1	
R8069	ERDS2TJ332		3300	1	L8003	VLQEL05F151K	150μH	1	
R8070	ERDS2TJ222		2200	1	L8004	VLQEL05F270K	27μH	1	
R8071	ERDS2TJ390		39	1	L8005	VLQEL05F470K	47μH	1	
R8072	ERDS2TJ563		56k	1	L8006	VLQEL05F101K	100μH	1	
R8073	ERDS2TJ471		470	1	L8007	VLQEL07F682J	6.8mH	1	
					L8008	VLQEL05F8R2K	8.2μH	1	
		Variable Resistor			L8009	VLQEL05F4R7K	4.7μH	1	
VR8001	EVN61AA00B13			1	L8010	VLQEL05F101K	100μH	1	
					L8011,8012	VLQEL05F681K	680μH	2	
		Capacitors			L8013	VLQEL05F331K	330μH	1	
C8001	ECEA1CK100	Electrolytic 16V 10p	1		L8014	VLQEL05F101K	100μH	1	NV-730 EG
					L8015	ELM7Q204A		1	NV-730 EG
C8002-8005	ECKF1H103ZF	Ceramic 50V 0.01	4						
C8006	ECQV1H223JZ	Mylar 50V 0.022	1		L8016	VLQEL05F101K	100μH	1	
C8007	ECCF1H270JC	Ceramic 50V 27p	1		L8017	VLQEL05F102K	1mH	1	
C8008,8009	ECEA1AK470UJ	Electrolytic 10V 47	2						
C8010	ECCF1H050CC	Ceramic 50V 5p	1				Crystal Oscillator		
C8011	ECKF1H102KB	Ceramic 50V 1000p	1		X8001	V5X0129		1	
C8012	ECEA1AU471	Electrolytic 10V 470	1						
C8013,8014	VCFY1C104MR	Semiconductor 16V 0.1	2						
C8015	ECEA1AK470UJ	Electrolytic 10V 47	1						
C8016	ECEA1EK100	Electrolytic 25V 10	1						
C8017	ECEA1CK100	Electrolytic 16V 10	1						
C8018	ECKF1H103ZF	Ceramic 50V 0.01	1						
C8019	ECKF1H681KB	Ceramic 50V 680p	1	NV-730 EG					
C8020	ECQV1H154JZ	Mylar 50V 0.15	1						
C8021	ECCF1H820JC	Ceramic 50V 82p	1						
C8022-8025	ECKF1H103ZF	Ceramic 50V 0.01	4						
C8026	ECQV1H273JH	Mylar 50V 0.027	1						
C8027	ECQV1H183JZ	Mylar 50V 0.018	1						
C8028	ECKF1H391KB	Ceramic 50V 390p	1						
C8029	ECKF1H102KB	Ceramic 50V 1000p	1						
C8030,8031	ECKF1H103ZF	Ceramic 50V 0.01	2						
C8032	ECCF1H390JC	Ceramic 50V 39p	1						
C8033,8034	ECQV1H122JZ	Ceramic 50V 1200p	2						
C8035	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-730 EG					
C8036	ECEA1CK330UJ	Electrolytic 16V 33	1	NV-730 EG					
C8037	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-730 EG					
C8038	ECQV1H563JZ	Ceramic 50V 0.056	1	NV-730 EG					
C8039	ECEA1AK470UJ	Electrolytic 10V 47	1	NV-730 EG					
C8040	ECKF1H103ZF	Ceramic 50V 0.01	1						
C8041	ECQV1H104JZ	Mylar 50V 0.1	1						
C8042	ECKF1H103ZF	Ceramic 50V 0.01	1						
C8043	ECKF1H471KB	Ceramic 50V 470p	1						
C8044	ECEA1CK330UJ	Electrolytic 16V 33	1	NV-730 EG					
C8046	ECEA1AK101	Electrolytic 10V 100	1						

Ref. No.	Part No.	Part Name & Description	Pos Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pos Set	Remarks
		(Audio Section)			C4009	ECQV1H223JZ	Mylar 50V 0.022	1	
					C4010	ECEA1CK470UJ	Electrolytic 16V 47	1	
					C4011	ECQV1H683JZ	Mylar 50V 0.068	1	
					C4012	ECEA1CK100	Electrolytic 16V 10	1	
					C4013	ECEA1CK220	Electrolytic 16V 22	1	
		Integrated Circuits			C4014	ECQV1H103JZ	Mylar 50V 0.01	1	
IC4001	TA7361P		1		C4015	ECQV1H273JZ	Mylar 50V 0.027	1	
IC4002	PC1514CA		1		C4016	ECEA1HK010	Electrolytic 50V 1	1	
					C4017	ECEA1CK470UJ	Electrolytic 16V 47	1	
		Transistors			C4018	ECQV1H563JZ	Mylar 50V 0.056	1	
Q4001	ZSD639		1	(R)	C4019	ECEA1CK220	Electrolytic 16V 22	1	
Q4002,4003	ZSD655		2		C4020	ECQV1H334JZ	Mylar 50V 0.33	1	
Q4004	ZSC1473		1		C4021	VCYF1E333KR	Semiconductor 25V 0.033	1	
Q4005,4006	ZSD655		2		C4022	ECEA1HK010	Electrolytic 50V 1	1	
					C4023	ECEA1CK100	Electrolytic 16V 10	1	
					C4024	ECF2H470K	Ceramic 100V 47	1	
		Combination Circuit (Transistor & Resistor)			C4025	ECKF1H102KB	Ceramic 50V 1000p	1	
QR4002	DTC124A		1	or UN1212	C4026	ECEA1HK010	Electrolytic 50V 1	1	
					C4027	VCYF1E103KR	Semiconductor 25V 0.01	1	
					C4028	ECQV1H472JZ	Mylar 50V 4700p	1	
		Diodes					Combination Circuit (Resistor & Capacitor)		
D4001,4002	MA162		2		CR4001	EXFD102K473C	1000p, 47k	1	
		Resistors							
R4001,4002	ERDS2TJ331	330	2				Coils		
R4003	ERDS2TJ392	3900	1		L4001	VLQEL05F471K	470pH	1	
R4004	ERDS2TJ102	1k	1		L4002	VTQ0038		1	
R4005	ERDS2TJ223	22k	1		L4003	VLQEL07F682J	6.8m H	1	
R4006	ERDS2TJ103	10k	1		L4004,4005	VTQ0014		2	
					L4006	VLQ0123		1	
R4007	ERDS2TJ183	18k	1				Variable Resistors		
R4008	ERDS2TJ101	100	1		VR4001	EVN61AA00B13	13k	1	
R4009	ERDS2TJ182	1800	1		VR4002	EVN61AA00B25	200k	1	
R4010	ERDS1TJ335	1/2W 3.3M	1						
R4011,4012	ERDS2TJ681	680	2				Transformer		
R4013	ERDS2TJ102	1k	1		T4001	E1Q7QF001B		1	
R4014	ERDS2TJ561	560	1						
R4015	ERDS2TJ563	56k	1				Miscellaneous		
R4016	ERDS2TJ392	3900	1		S3001	VSS0107		1	
R4017	ERDS2TJ100	10	1		S3002	VSS0106		1	
R4018,4019	ERDS2TJ223	22k	2						
R4020	ERDS2TJ271	270	1						
R4021	ERDS2TJ332	3300	1						
R4022	ERDS2TJ154	150k	1						
R4023	ERDS2TJ333	33k	1						
R4024	ERDS2TJ183	18k	1			VJH0305	Buzzer Set Angle	1	
R4025	ERDS2TJ392	3900	1			VSV0009	Buzzer	1	
R4026	ERDS2TJ332	3300	1			VJF0215	Binder	1	
R4027	ERDS2TJ820	82	1			VJF0035	Wire Saddle	2	
R4028,4029	ERDS2TJ223	22k	2			VMX0549	Spacer	7	
R4030	ERDS2TJ332	3300	1			VEJ0342	Rear Jack Unit	1	
R4031,4032	ERDS2TJ223	22k	2			XTN2-6G	Screw	2	
R4033	ERDS2TJ153	15k	1			XTV3-8G	Screw	3	
		Capacitors							
C4001	ECF2H121K	Ceramic 100V 120p	1						
C4002	ECQF6222KZ	Mylar 50V 2200p	1						
C4003,4004	ECEA1CK101	Electrolytic 16V 100	2						
C4005	ECEA1HK4R7	Electrolytic 50V 4.7	1						
C4006	ECEA1CK101	Electrolytic 16V 100	1						
C4007	ECEA16Z10	Electrolytic 16V 1	1						
C4008	ECQV1H103JZ	Mylar 50V 0.01	1						

Ref. No.	Part No.	Part Name & Description	Pos / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pos / Set	Remarks
Q5007, 5008	2SB641		2		C5018	ECKFIH103ZF	Ceramic 50V 0.01	1	
Q5009-5016	2SC2206		8		C5019	ECCFIH020CC	Ceramic 50V 2p	1	
					C5020	ECEA1CK100	Electrolytic 16V 10	1	
		Combination Circuit			C5021	ECCFIH100DC	Ceramic 50V 10p	1	
		(Transistor & Resistor)			C5022	ECEA1CK100	Electrolytic 16V 10	1	
QR5001	DTG144A		1		C5023	ECCFIH100DC	Ceramic 50V 10p	1	
					C5024	ECCFIH010CC	Ceramic 50V 1p	1	
		Resistors			C5025, 5026	ECKFIH103ZF	Ceramic 50V 0.01	2	
R5001	ERDS2TJ820		82	1	C5027	ECEA1CK100	Electrolytic 16V 10	1	
R5002	ERDS2TJ471		470	1	C5028	ECCFIH010CC	Ceramic 50V 1p	1	
R5003	ERDS2TJ152		1500	1	C5029	ECCFIH100DC	Ceramic 50V 10p	1	
R5004	ERDS2TJ682		6800	1	C5030	ECKFIH102ZF	Ceramic 50V 1000p	1	
R5005	ERDS2TJ122		1200	1	C5031-5033	ECKFIH103ZF	Ceramic 50V 0.01	3	
R5006	ERDS2TJ471		470	1	C5034	ECEA1AK470UJ	Electrolytic 10V 47	1	
R5007	ERDS2TJ122		1200	1	C5035	ECEA1HK010	Electrolytic 50V 1	1	
R5008	ERDS2TJ221		220	1	C5036	ECCFIH180KC	Ceramic 50V 18p	1	
R5009	ERDS2TJ561		560	1	C5037	ECCFIH060DC	Ceramic 50V 6p	1	
R5010, 5011	ERDS2TJ682		6800	2	C5038	VCKFIH431JA	Semiconductor 50V 430p	1	
R5012, 5013	ERDS2TJ560		56	2	C5039	VCKFIH221JA	Semiconductor 50V 220p	1	
R5014	ERDS2TJ683		68k	1	C5040	ECKFIH151KB	Ceramic 50V 150p	1	
R5015	ERDS2TJ333		33k	1	C5041	VCYF1E473KR	Semiconductor 25V 0.047	1	
R5016	ERDS2TJ103		10k	1	C5042	ECKFIH102ZF	Ceramic 50V 1000p	1	
R5017	ERDS2TJ683		68k	1	C5043-5046	ECV1ZW90X53T	Trimmer 250V 0.05	4	
R5018	ERDS2TJ103		10k	1	C5047	ECQV1H473JZ	Mylar 50V 0.047	1	
R5019, 5020	ERDS2TJ102		1k	2			Coiles		
R5021, 5022	ERDS2TJ562		5600	2	L5001	VLQEL05F101K	100µH	1	or UN1113
R5023-5026	ERDS2TJ122		1200	4	L5002	VLQEL05F820K	82µH	1	
R5027, 5028	ERDS2TJ100		10	2	L5003	VLQEL05F151K	150µH	1	
R5029	ERDS2TJ122		1200	1	L5004-5007	VLQ0127		4	
R5030	ERDS2TJ100		10	1	L5008, 5009	VLQEL05F101K	100µH	2	
R5031	ERDS2TJ122		1200	1	L5010	VLQEL05F390K	39µH	1	
					L5011	VLQEL05F151K	150µH	1	
					L5012	VLQEL05F180K	18µH	1	
					L5013	VLQEL05F4R7K	2.7µH	1	
R5032	ERDS2TJ100		10	1			Connectors		
R5033-5036	ERDS2TJ471		470	4	P1004	VJPI237	10P	1	
R5037	ERDS2TJ223		22k	1	P1005	VJPI234	7P	1	
R5038, 5039	ERDS2TJ222		2200	2	P1006	VJPI230	3P	1	
R5040	ERDS2TJ102		1k	1	P1007	VJPI235	8P	1	
R5041	ERDS2TJ561		560	1					
R5042	ERDS2TJ122		1200	1	P1008	VJPI231	4P	1	
R5043	ERDS2TJ102		1k	1	P1009	VJPI235	8P	1	
R5044	ERDS2TJ683		68k	1	P1010	VJPI141	2P	1	
R5045	ERDS2TJ560		56	1	P5001	VJPI234	7P	1	
R5046	ERDS2TJ222		2200	1	P5002, 5003	VJPI235	8P	2	
		Variable Resistor				VEP07221A/B/	TV Demodulator P.C.Board		
VR3001	EVNOACA00B13		1k	1		C/D	Unit		
VR5001-5004	EVNOACA00B13		1k	4					
		Capacitors					Integrated Circuits		
C5001	ECEA1CK470UJ	Electrolytic 16V	47	1	IC701	BN5115B		1	
C5002	ECCFIH820KC	Ceramic 50V	82	1	IC751	AN5215		1	
C5003	ECKFIH181KB	Ceramic 50V	180p	1			Transistors		
C5004	ECKFIH103ZF	Ceramic 50V	0.01	1	Q701	2SD636		1	(Q,R,S,T) NV-730 EG
C5005	ECKFIH471KB	Ceramic 50V	470p	1	Q702	2SB641		1	(Q,R,S,T)
C5006	VCYF1E333KR	Semiconductor 25V	0.33	1	Q703	2SD636		1	(S,T)
C5007	ECKFIH472ZF	Ceramic 50V	4700p	1					
C5008	ECCFIH150JC	Ceramic 50V	15p	1	Q761	2SD636		1	(Q,R,S,T)
C5009	ECKFIH103ZF	Ceramic 50V	0.01	1			Diodes		
C5010	VCYF1C104MR	Semiconductor 16V	0.1	1	D711,712	MA165		2	NV-730 E/B /EO
C5011	ECKFIH103ZF	Ceramic 50V	0.01	1	D761	MA27W		1	
C5012, 5013	ECEA5021	Electrolytic 50V	1	2			Resistors		
C5014	ECEA1CK100	Electrolytic 16V	10	1	R713	ERDS2TJ332	3300	1	
C5015	ECKFIH103ZF	Ceramic 50V	0.01	1					
C5016	ECCFIH100DC	Ceramic 50V	10p	1					
C5017	ECCFIH010CC	Ceramic 50V	1p	1					

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Capacitors							
C701	ECKFIH103ZF	Ceramic 50V 0.01	1		D7520-7522	MA165		3	
C702	ECEAICKS220	Electrolytic 16V 22	1	NV-730 E/EG/EO	D7523	LN38GCPP	LED	1	
C702	ECEAICKS330	Electrolytic 16V 33	1	NV-730 B	D7530	MA165		1	
C703	ECEAICKS100	Electrolytic 16V 10	1		D7550	MA165		1	
C704	ECKFIH103ZF	Ceramic 50V 0.01	1	NV-730 E	D7552,7553	MA165		2	
C705	ECEAICK330	Electrolytic 50V 33	1	NV-730 E/EG/EO	D7561-D7563	MA165		3	
C706	ECKFIH103ZF	Ceramic 50V 0.01	1		D7571	MA165		1	
C707	ECEA1HKS010	Electrolytic 50V 1	1		D7574	MA165		1	
C708	ECEAICKS330	Electrolytic 16V 33	1	NV-730 E/EG/EO	D7576	MA1075	Zenner	1	
					D7577	10E2		1	
C709	ECEAICKS100J	Electrolytic 16V 10	1		U7595	MA165		1	
C710	ECQVIH104JZ	Mylar 50V 0.1	1						
		Coil					Resistors		
L701	VLQEL05F680K	68 μ H	1		R7501	ERDS2TJ122		1200	1
L762	VLQEL05F221K	220 μ H	1	NV-730 EG/EO	R7502	ERC14GJ126	Metal 1/4W	12M	1
L791	VLQEL05F221K	220 μ H	1	NV-730 EG/EO	R7503	ERDS2TJ102		1k	1
		Connectors			R7505,7506	EKDS2TJ223		22k	2
P703	VJP1251	11P	1		R7507	ERDS2TJ181		180	1
P704	VJP1242	2P	1		R7508	ERDS2TJ334		330k	1
		Tuner			R7509	EVNK6AA00B25	Variable	200k	1
	TNV57763F2		1	Δ NV-730 EG	R7510	ERDS2TJ124		120k	1
	TNV57768F2		1	Δ NV-730 EO	R7511	ERDS2TJ154		150k	1
	TNV77759F2		1	Δ NV-730 E	R7512	RDS2TJ104		100k	1
	TNV87359F2		1	Δ NV-730 B	R7513	RDS2TJ102		1k	1
	VEP07213A/B/C	Timer P.C.Board Unit			R7515	EVNK6AA00B24	Variable	20k	1
		Integrated Circuits			R7516	ERDS2TJ473		47k	1
IC7501	MN1455BVL		1		R7517	ERDS2TJ221		220	1
IC7502	AN6873		1		R7518	ERDS2TJ105		1M	1
IC7503	MN1512VTJ		1		R7519	ERDS2TJ101		100	1
IC7504	MN1228		1		R7520	ERDS2TJ103		10k	1
IC7505	AN5033		1		R7521	RDS2TJ472		4700	1
IC7506	MB88201148K		1						
IC7508	AN5421		1						
		Transistors			R7526	EROS2CKG1003	Metal	100k	1
Q7501	2SB641		1		R7527	ERDS2TJ104		100k	1
Q7503	2SD636		1		R7528	ERDS2TJ103		10k	1
Q7507,7508	2SB644		2		R7529	ERDS2TJ473		47k	1
Q7510	2SD637		1		R7530	ERDS2TJ104		100k	1
Q7520	2SD636		1		R7531	ERDS2TJ124		120k	1
Q7522	2SD636		1		R7532	ERDS2TJ122		1200	1
Q7530,7531	2SD636		2		R7533	EWEU2A016B24	Variable	20k	1
Q7534,7535	2SB641		2		R7534	ERDS2TJ271		270	1
Q7536	2SD636		1		R7535	EVNK6AA00B14	Variable	100k	1
Q7581	2SD636		1		R7536,7537	ERDS2TJ101		100	2
		Combination Circuits			R7538	ERDS2TJ103		10k	1
		(Transistor & Resistor)			R7539	ERDS2TJ390		39	1
QR7503	DTC144A		1	or UN1213	R7540	ERDS2TJ820		82	1
QR7506	DTA114A		1	or UN1111	R7541	DS2TJ153		15k	1
QR7511	DTA124A		1	or UN1112	R7542	ERDS2TJ473		47k	1
R7523-7524	DTC144A		4	or UN1213	R7543	ERDS2TJ104		100k	1
		Diodes			R7546	ERDS2TJ273		27k	1
D7501,7502	MA165		2		R7547	ERDS2TJ104		100k	1
D7505	LN28WPVT	LED	1		R7549	ERDS2TJ104		100k	1
D7506,7507	10E2		2		R7550	ERDS2TJ391		390	1
D7509	MA27W		1		R7551,7552	ERDS2TJ223		22k	2
D7510	LN28WPVT	LED	1		R7553	ERDS2TJ103		10k	1
					R7554,7555	ERDS2TJ473		47k	2
					R7557	ERDS2TJ473		47k	1
					R7558	EKDS2TJ223		22k	1
					R7559	ERDS2TJ102		1k	1
					R7560	ERDS2TJ222		2200	1
					R7561,7562	ERDS2TJ223		22k	2
					R7563	ERDS2TJ183		18k	1
					R7564	ERDS2TJ474		470k	1
					R7565	ERDS2TJ223		22k	1
					R7566	ERDS2TJ332		3300	1

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R7567	ERDS2TJ393		39k 1		C7554	ECKF1H471KB	Ceramic 50V 470p	1	
R7568	ERDS2TJ222		2200 1		C7555	ECKF1H221KB	Ceramic 50V 220p	1	
R7569-7571	ERDS2TJ332		3300 3		C7556	ECCF1H101J	Ceramic 50V 100p	1	
R7572	ERDS2TJ104		100k 1		C7561	ECQV1H103JZ	Mylar 50V 0.01	1	
R7573	ERDS2TJ103		10k 1		C7562	ECQV1H392JZ	Mylar 50V 3900p	1	
R7574	ERDS2TJ333		33k 1		C7563	ECEA1CKN330	Electrolytic 16V 33	1	NV-730 EG
R7575	ERO2CKG6813	Metal	681k 1		C7564	ECEA1CK330UJ	Electrolytic 16V 33	1	
R7576	ERDS2TJ223		22k 1		C7565	ECQV1H272JZ	Mylar 50V 2700p	1	
R7577	ERDS2TJ473		47k 1		C7566	ECQB1H272JH	Mylar 50V 2700p	1	
R7578	ERDS2TJ103		10k 1		C7567	ECKF1H103ZF	Ceramic 50V 0.01	1	
R7579	ERDS2TJ473		47k 1		C7568	ECEA1HK010	Electrolytic 50V 1	1	
R7585	ERDS2TJ124		120k 1		C7569	ECEA1HK3R3	Electrolytic 50V 3.3	1	
R7586	ERDS2TJ473		47k 1		C7573	ECEA1HKR22	Electrolytic 50V 0.22	1	
R7588	ERDS2TJ104		100k 1		C7584	ECEA1CK470UJ	Electrolytic 16V 47	1	
R7589	ERDS2TJ151		150 1		C7586	ECQB1H102JH	Mylar 50V 1000p	1	
R7590	ERDS2TJ562		5600 1						
R7591	ERDS2TJ472		4700 1				Coil		
R7592	ERDS2TJ471		470 1		L7501	VLQEL05F102K		1mH 1	
R7593	ERDS2TJ101		100 1						
R7594	ERDS2TJ103		10k 1				Crystal Oscillators		
R7595	EYNK6AA00523	Variable	2k 1		X7501	VSX0071		1	
R7596	ERDS2TJ562		5600 1		X7502	VSX0094		1	
R7597	ERDS2TJ822		8200 1		X7503	VSX0082		1	
R7598	ERDS2TJ393		39k 1						
R7599	ERDS2TJ102		1k 1				Switches		
R7601-7606	ERDS2TJ102		1k 3		SW7516	VES0213		1	
R7607, 7608	ERD25TJ102		1k 2		SW7517	ESD14137A		1	
					SW7518-7520	EVQSB05C		3	
		Capacitors							
C7501	ECCF1H080DC	Ceramic 50V	8p 1						
C7502	ECV1ZW20X53T	Trimmer 500V	20p 1						
C7503	ECCF1H050CC	Ceramic 50V	5p 1				Connectors		
C7504	ECCF1H330JC	Ceramic 50V	33p 1		P7501	VJPI238		11P 1	
C7505	ECCF1H220JC	Ceramic 50V	22p 1		P7503	VJPI233		6P 1	
C7506	ECKF1H103ZF	Ceramic 50V	0.01 1		P7504	VJPI230		3P 1	
C7507, 7508	ECEA1HKR22	Electrolytic 50V	0.22 2		P7505	VJPI229		2P 1	
C7509	ECEA1AK470UJ	Electrolytic 10V	47 1		P7506	VJPI237		10P 1	
C7510	ECEA1AK101	Electrolytic 10V	100 1		P7507	VJPI230		3P 1	
C7511	ECKF1H103ZF	Ceramic 50V	0.01 1		P7508	VJPI232		5P 1	
C7512	ECEA1HKR22	Electrolytic 50V	0.22 1		P7509	VJPI230		3P 1	
C7513, 7514	ECCF1H470J	Ceramic 50V	47p 2		P7520	VJPI229		2P 1	
C7515	ECQV1H104JZ	Mylar 50V	0.1 1						
C7516	ECQV1H683JZ	Ceramic 50V	0.068 1						
C7517	ECQV1H273JZ	Mylar 50V	0.023 1						
C7518	ECQV1H823JZ	Mylar 50V	0.082 1			VEP07214A	Timer Operation P.C.Board Unit		
C7519-7521	ECKF1H103ZF	Ceramic 50V	0.01 3						
C7522	ECEA1JS100	Electrolytic 63V	10 1						
C7523	ECEA1HK010	Electrolytic 50V	1 1						
C7524	ECKF1H103ZF	Ceramic 50V	0.01 1				Integrated Circuits		
C7527	ECEA1HK4R7	Electrolytic 50V	4.7 1		IC7507	AN6873N		1	
C7528	ECQV1H473JZ	Mylar 50V	0.047 1		IC7509	MPD7537CU		1	
C7530	ECEA1AK470UJ	Electrolytic 10V	47 1		IC7580	μPC1373H		1	
C7531	ECEA1CK100	Electrolytic 16V	10 1						
C7532	ECEA1HK010	Electrolytic 50V	1 1						
C7533, 7534	ECKF1H103ZF	Ceramic 50V	0.01 2				Transistor		
C7535	ECQV1H104JZ	Mylar 50V	0.1 1		Q7580	2SB641		1	
C7536	ECKF1H103ZF	Ceramic 50V	0.01 1						
C7540-7542	EECW2R3A3R3		3.3 3						
C7543	ECEA1HK010	Electrolytic 50V	1 1				Diodes		
C7544	ECKF1H103ZF	Ceramic 50V	0.01 1		D7514	MA165		1	
C7550	ECKF1H103ZF	Ceramic 50V	0.01 1		D7554	MA165		1	
C7551	ECEA1CK100	Electrolytic 16V	10 1						
C7552	ECEA1HKR22	Electrolytic 50V	0.22 1						
C7553	ECKF1H103ZF	Ceramic 50V	0.01 1						

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Resistors					Fuses		
R7504	ERDS2TJ102	1k	1		F1001	XBA2C06TRO	630mA	1	△
R7514	ERDS2TJ103	10k	1		F1002,1003	XBA2C12TRO	1.25A	2	△
R7523	ERDS2TJ102	1k	1				Connectors		
R7524	ERDS2TJ333	33k	1		P1002,1003	VJPI141	2P	2	
R7525	ERDS2TJ472	4700	1				Miscellaneous		
R7544	ERDS2TJ102	1k	1			TJC6320	Fuse Holder	6	△
R7545	ERDS2TJ470	47	1						
R7556	ERDS2TJ473	47k	1			ENC87761	RF Converter Unit		△
R7580	ERDS2TJ154	150k	1			/ENC87762			
R7581	ERDS2TJ120	12	1			/ENC87764			
R7582	ERDS2TJ102	1k	1				Integrated Circuit		
R7583	ERDS2TJ473	47k	1		IC1			1	
R7584	ERDS2TJ334	330k	1				Transistors		
		Capacitors			Q1	2SC2480		1	(UO-1)
C7571,7572	ECKFIH471	470p	2		Q2,3	2SC2570		2	or 2SC2171
C7574	ECEA1HK010	Electrolytic 50V	1	1			Diodes		
C7575	ECEA1CK100	Electrolytic 16V	10	1	D1,2	1SS174		2	or 1SS84
C7576	ECKFIH103ZF	Ceramic 50V	0.01	1	D3,4	1SS135		2	or MA161
C7580	ECQVIH183J2	Ceramic 50V	0.018	1	D5	MA161		1	NV-730 B
C7581	VCF0006			1			Resistors		
C7582	ECEA1CK100	Electrolytic 16V	10	1	R1	ERJ8GJ391	Chip	390	1
C7583	ECEA1HKR47	Electrolytic 50V	0.47	1	R2	ERD10TJ680	1/8W	680	1
C7585	ECEA1CK100	Electrolytic 16V	10	1	R3	EVN38CA00B14	Variable	10k	1
C7587	ECKFIH31KB	Ceramic 50V	330p	1					
		Transformer							
T7580	ELM7Q206A		1						
		Crystal Oscillator							
X7504	V5X0138		1		R4	ERO25FJ121	Metal	120	1
		Switches			R5	ERD10TJ823	1/8W	82k	1
SW7501	EVQQS307K		1		R6	ERJ8GCS682	Chip	6.8k	1
SW7521,7522	EVQQS307K		2		R7	ERD10TJ682	1/8W	6800	1
SW7524	EVQQS307K		1		R7	ERD10TJ392	1/8W	3.9k	1
		Miscellaneous			R7	ERD10TJ472	1/8W	4.7k	1
VJF0207		Display Tube Holder (R)	1		R8	ERJ8GCS273	Chip	27k	1
VJF0208		Display Tube Holder (L)	1		R9	ERJ8GCJ101	Chip	100	1
VSL0037-B		Display Tube	1		R10	ERD10TJ221	1/8W	220	1
VQ00457		LED Spacer (D7523)	1		R11	ERD10TJ470	1/8W	47	1
VGT0305		1 Volume Knob	1		R12	ERD10TJ680	1/8W	68	1
VJF0102		Wire Saddle	1		R16	ERJ8GCJ101	Chip	100	1
VJF0215		Binder	2		R17,18	ERD10TJ151	1/8W	150	2
VK00068		Hinge	2		R19	ERJ8GCS332	Chip	3.3k	1
					R20	ERJ8GCS471	Chip	470	1
VEP01152A		Power Transformer P.C.		△	R21	ERJ8GCS150	Chip	15	1
		Board Unit			R23	ERJ8GCS271	Chip	270	1
		Diodes			R23	ERJ8GCS331	Chip	330	1
F1001-1014	11E1		14	△	R24	ERJ8GCS121	Chip	120	1
		Resistors			R24	ERJ8GCS561	Chip		1
R1001	ERQ12HJR56	Fuse 1/2W	0.56	1	R25	ERD10TJ470	1/8W	47	1
R1002	ERD2FCJ4R7	2W	0.47	1	R25	ERD10TJ390	1/8W	39	1
		Capacitors			R26	ERD10TJ182	1/8W	1.8k	1
C1001	ECEA1EU472	Electrolytic 25V	4700	1	R27	ERJ8GCS471	Chip	470	1
C1002	ECEA1EU222	Electrolytic 25V	2200	1	R28	ERJ8GCS180	Chip	18	1
C1003	ECEA1CU101	Electrolytic 16V	100	1	R29	ERD10TJ331	1/8W	330	1
C1004,1005	ECEA1JU101	Electrolytic 63V	100	2	R29	ERD10TJ271	1/8W	270	1
C1006,1007	ECKFIH103ZF	Ceramic 50V	0.01	2	R30	ERJ8GCS470	Chip	47	1
					R30	ERJ8GCS390	Chip	39	1
					R31	ERD10TJ390	1/8W	39	1
					R31	ERD10TJ750	1/8W	75	1
					R32	ERD10TJ561	1/8W	560	1
					R33	ERD10TJ273	1/8W	27k	1

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R34	ERD10TJ271	1/8W	270	1			Connector		
R35	ERJ8GCS271	Chip	270	1	P7580	VJP1224	2P	1	
R36	ERD10TJ271	1/8W	270	1					
R37	ERJ8GCS271	Chip	270	1					
R38	ERJ8GCS122	Chip	1.2k	1		VJB00C65	Beep Switch P.C.Board		
R39	ERD10TJ221	1/8W	220	1					
R40	ERD10TJ000		0	1			Switch		
		Switch			S6501	VES0198		1	
SW1	ESD14515		1	NV-730 B/EO			Connector		
		Connectors			P6508	VJP0142	2P	1	
P1	VJP1244		4P	1		VJB00C92	Power/Eject Switch P.C. Board		
P2	VJP1243		3P	1					
		Note:					Switches		
		The Capacitors, Filters and Transformers for the RF Converter Unit are not available as spare parts.			S6501	VSP0151	Power Switch	1	with LED
					S6502	EVQSB05G	Eject Switch	1	
	VEP00C63A	Keyboard Connection P.C.Board Unit				VJB00C62	Power IC P.C.Board		
		Transistors					Integrated Circuit		
Q6501,6502	2SD636		2	with LED	IC1501	STK5361L		1	△
Q6503	2SB642		1				Transistor		
		Diode			Q1501	2SD1275		1	△
D6501	MA165		1			VJB00C93	Power Transistor P.C. Board		
		Resistors					Transistor		
R6501	ERDS2TJ102		1k	1	Q1504	2SD1265		1	(Q,R)
R6502,6503	ERDS2TJ183		18k	2					
R6504	ERDS2TJ102		1k	1		VJB00C84	Mechanism Connection P.C. Board		
R6505	ERDS2TJ103		10k	1			Combination Circuit (Transistor & Resistor)		
R6506	ERDS2TJ562		5600	1	QR1101	DTC144A		1	or UN1213
R6507	ERDS2TJ103		10k	1			Resistors		
R6508	ERDS2TJ222		2200	1	R1101	ERD10TJ273	1/8W 27k	1	
		Capacitors			R1102,1103	ERD10TJ102	1/8W 1k	2	
C6501,6502	ECQV1H822J2	Mylar 50V 8200p	2				Capacitors		
C6503	ECQV1H103JZ	Mylar 50V 0.01	1		C1103	ECEA1HK010	Electrolytic 50V	1	1
		Connectors			C1104	ECQV1H104JZ	Mylar 50V	0.1	1
P6502	VJP1232		5P	1	C1105,1106	ECEA1HK010	Electrolytic 50V	1	2
P6506	VJS1415		31P	1			Connectors		
P6507	VJP1243		3P	1	P1511	VJP1246		6P	1
P6508	VJP1242		2P	1	P1512	VJP1244		4P	1
		VJB00C47	IR Remote Control Receiver P.C.Board		P1515,1516	VJP1242		2P	2
		Diode			P1517-1519	VJP1244		4P	3
D7580	PN313	IR Detect LED	1		P1520	VJP1246		6P	1

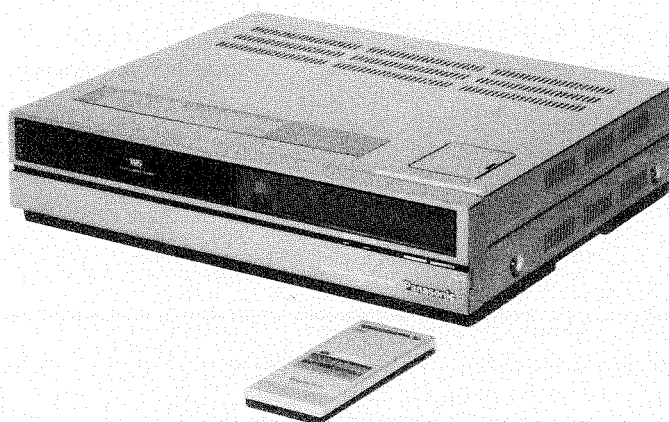
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Panasonic
MATSUSHITA ELECTRIC

Service Anleitung

**MECHANISCHE
JUSTIERUNGEN
ELEKTRISCHER ABGLEICH**

Video-Kassetten-Recorder

Panasonic VHS
NV-730 ^{-E}_{-EG}_{-EO}


TECHNISCHE DATEN

Spannungsversorgung: Netz 220 V, 50/60 Hz (NV-730E/-EG-EO)

Leistungsaufnahme: Ca. 30 Watt

Fernsehsystem: CCIR: 625 Zeilen, 50 Felder
PAL-Farbsignal

Video-Aufnahmesystem: 2 drehende Köpfe, Schrägspur-Abtastsystem
Luminanz: FM-Azimuth-Aufnahme
Farbsignal: konvertierte Hilfsträger-Phasenversetzung-Aufnahme

Audiospur: 1 Spur

Bandformat: Bandbreite 12,7 mm, hochdichtes Band

Bandgeschwindigkeit: SP-Modus: 23,39 mm/s
LP-Modus: 11,695 mm/s

Aufnahme/Wiedergabezeit: 240 oder 480 Min. mit NV-E240

Schnellvorlauf/Rückspulzeit: Weniger als 5,5 Min. mit NV-E180
Video: 4 drehende Köpfe
1 Paar für Aufnahme und Wiedergabe im SP-Modus (SP-R/SP-L Kopf)
1 Paar für Aufnahme und Wiedergabe im LP-Modus (LP-R/LP-L Kopf)
Audio/Steuerung/Audiolöschung: 1 fester Kopf
Löschung: 1 Vollspurlöschung

Eingangsspegel: Video: VIDEO IN-Anschluß (BNC)
1,0 Vs-s, 75 Ohm Abschluß
Audio: LINE IN-Buchse (Cynchbuchse)
Mehr als -10 dB, 50 kOhm

Fernsehtuner: VHF Kanal E2 ~ U9 (NV-730-EG/EO)
Kanal 2 ~ 12 (NV-730-E)
UHF Kanal 21 ~ 69

Ausgangsspegel: Video: VIDEO OUT-Anschluß (BNC)
1,0 Vs-s, 75 Ohm Abschluß
Audio: LINE OUT-Buchse (Cynchbuchse)
-8 dB, weniger als 1 kOhm

RF-Modulation: UHF Kanal 36
75 ± 3 dB, 75 Ohm unsymmetrisch

Gewicht: 9,0 kg

Abmessungen: 430(B) x 99(H) x 367,5(T) mm

Mitgeliefertes Zubehör: 1 DIN-HF-Kabel
1 drahtlose Fernbedienung
1 Videokassette (NV-730-E/-E₀)

Auf Bestellung lieferbares Zubehör: Videokassetten:
NV-E240 ca. 344 m, 240 Min.
NV-E180 ca. 258 m, 180 Min.
NV-E120 ca. 174 m, 120 Min.
NV-E60 ca. 88 m, 60 Min.

Gewichtsangaben und Abmessungen sind ungefähre Werte.
Technische Änderungen vorbehalten.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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KAPITEL 2

ABGLEICH

2.1. MECHANISCHER ABGLEICH

Das Modell NV-730 ist mit dem Chassis D-1 ausgestattet. Einstellungen außer den in nachfolgenden Abschnitten 2.1.1 bis 2.1.3

beschriebenen Einstellungen entnehmen Sie bitte dem Service-Handbuch D-1 Chassis (Bestell-Nr. VRD-8310-490).

2.1.1. Prüfen des Aufwickeldrehmoments

2.1.2. Spieleinstellung des FG-Kopfs

2.1.3. Einstellen des Axialspiels

2.1.1 Prüfen des Aufwickeldrehmoments

* Erforderliche Werkzeuge:

Drehmoment meßuhr (VFK0133)

Adapter für Drehmomentmeßuhr (VFK0134)

* Spezifikation:

PLAY-Modus 130-180g-cm

FF-Modus Min. 400g-cm

REW-Modus Min. 400g-cm

1. Kassetteneinlegefach entfernen. Das Anschlußkabel des vorderen Lademotors nicht lösen.
2. Kassette einlegen und Meßuhradapter anbringen.
3. Drehmomentmeßuhr auf den Wickelteller setzen, dann PLAY-Taste drücken und das Wickelmoment ablesen. Dies auch für den FF-Betrieb durch Drücken der FF-Taste durchführen.
4. Drehmomentmeßuhr auf den Abwickelteller setzen, dann REW-Taste drücken und Abwickelmoment ablesen.

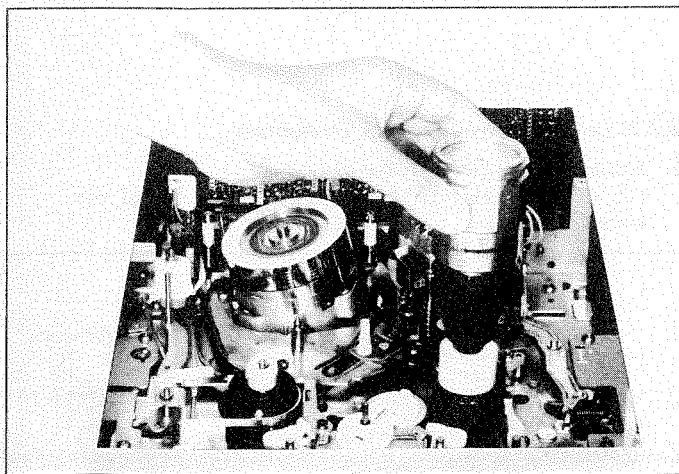


Fig. 1

Hinweis:

Während des Messens darf das Gewicht der Meßuhr nicht auf dem Wickelteller liegen.

2.1.2. Einstellen des FG-Abstands

* Erforderliche Werkzeuge:

Spezialschraubenzieher (VFK0136)

* Spezifikation: $0,16 \pm 0,04\text{mm}$

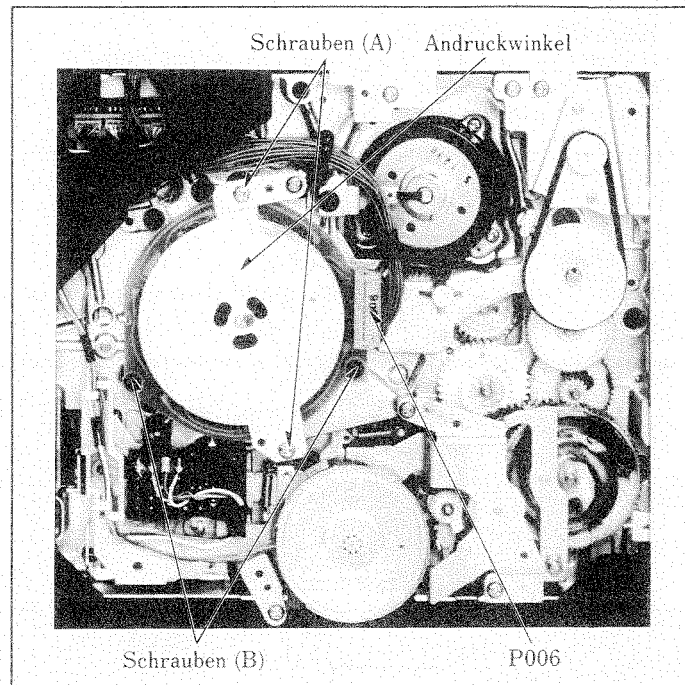


Fig. 2

1. Die zwei Schrauben (A) und Andruckwinkel entfernen, dann den Stecker P006 lösen.
2. Die beiden Schrauben (B) lösen, dann Stator entfernen.

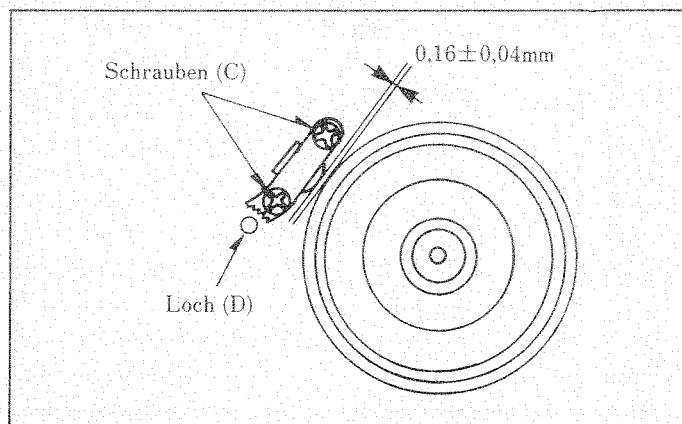


Fig. 3

3. Schrauben (C) lockern, den Spezialschraubenzieher in Loch (D) setzen und die Einstellung vornehmen.

Hinweis:

1. Statt dieser Methode kann auch das Deckblatt dieses Service-Handbuches benutzt werden, da es ca. 0,17mm dick ist.
2. Vorsicht: den Rotor weder von Hand noch mit Werkzeug berühren. Darauf achten, daß kein Magnet oder Magnetisches Material in die Nähe des Rotormagneten kommt.

2.1.3. Einstellen des Axialspiels

- * Erforderliche Werkzeuge:
Höhenmeßuhr für Wickeltisch (VFK0190)
- * Spezifikation: 0,05-0,10mm

1. Den Fuß der Höhenmeßuhr entfernen, dann die Spindel der Höhenmeßuhr anbringen.
2. Höhenmeßuhr auf den Andruckwinkel setzen und nullen.
3. Liegt das Spiel nicht im vorgeschriebenen Bereich, Schraube nach links oder rechts drehen.

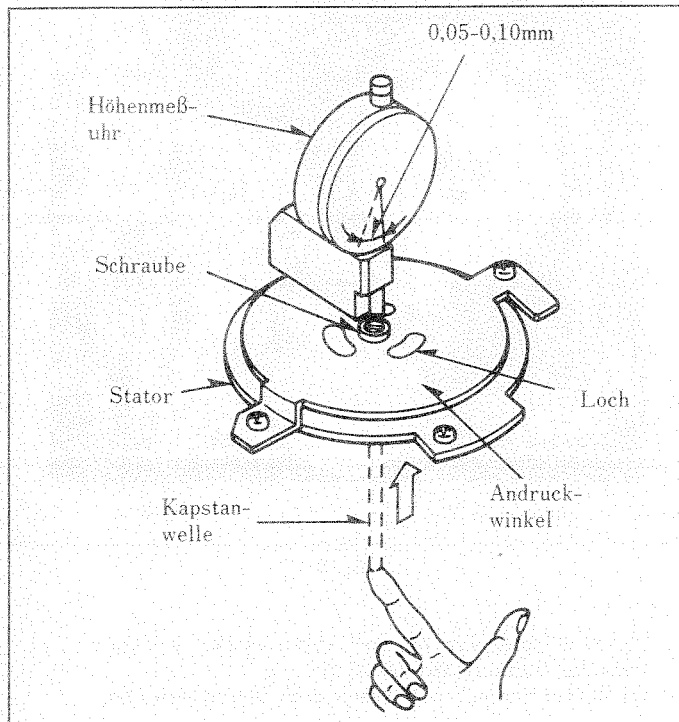


Fig. 4

2.2 DEMONTAGE

2.2.1. Ablaufdiagramm zur Demontage

Das Ablaufdiagramm zeigt, in welcher Reihenfolge die einzelnen Teile und Platinen ausgebaut werden müssen, um die jeweilige Wartungs- oder Reparaturstelle zu erreichen. Beim Zusammenbau in umgekehrter Reihenfolge vorgehen.

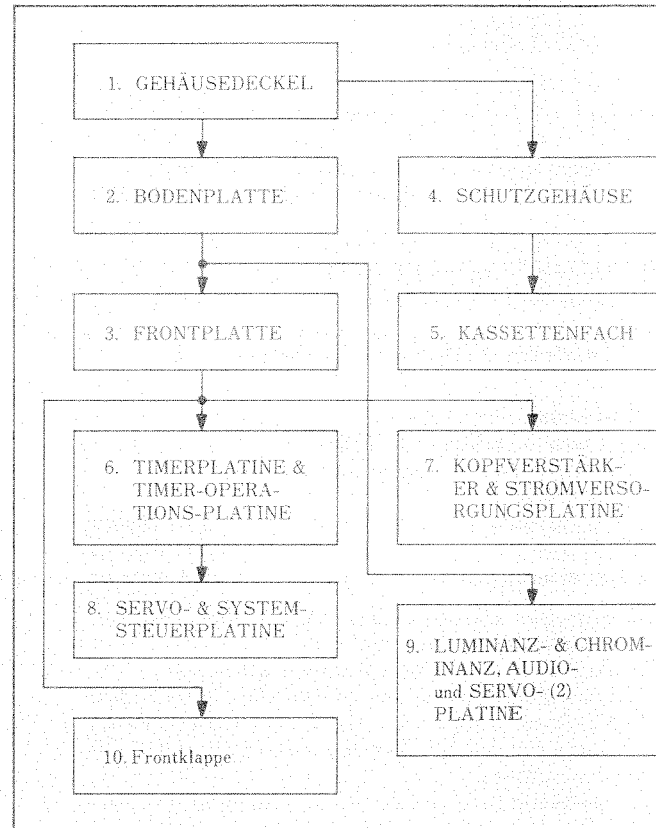


Fig. 1

2.2.2. Detailbeschreibung der Demontage

1. Entfernen des Gehäusedeckels

Die vier Schrauben (A) lösen. Dann Gehäusedeckel von hinten abheben.

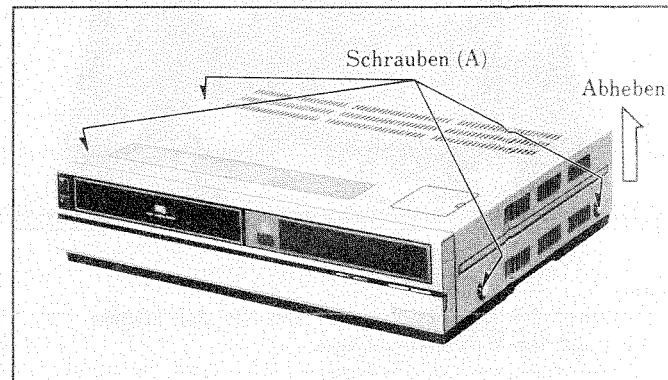


Fig. 2

2. Entfernen der Bodenplatte

Videorecorder umdrehen, so daß die Bodenplatte nach oben zeigt. Dann die 9 Schrauben (B) entfernen.

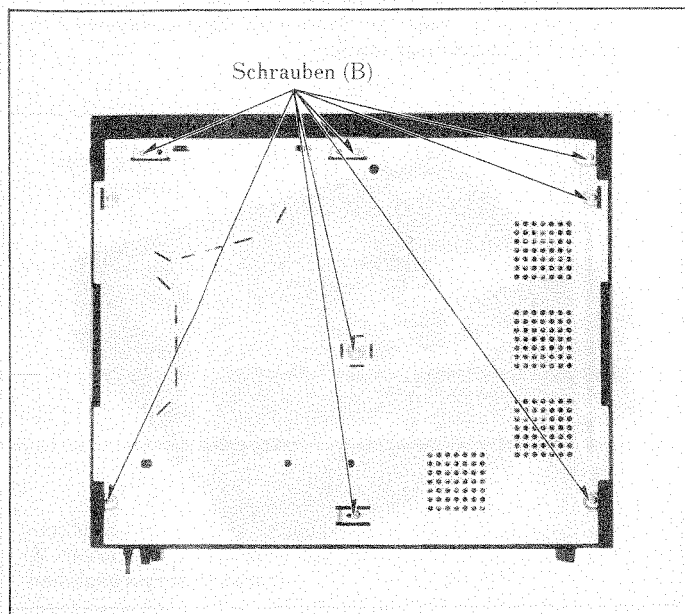


Fig. 3

3. Entfernen der Frontplatte

Die Klappe des Bedienungsfelds öffnen. Die 3 Schrauben (C) entfernen und die 5 Sperreile (D) lösen. Dann die Frontplatte vorsichtig abheben.

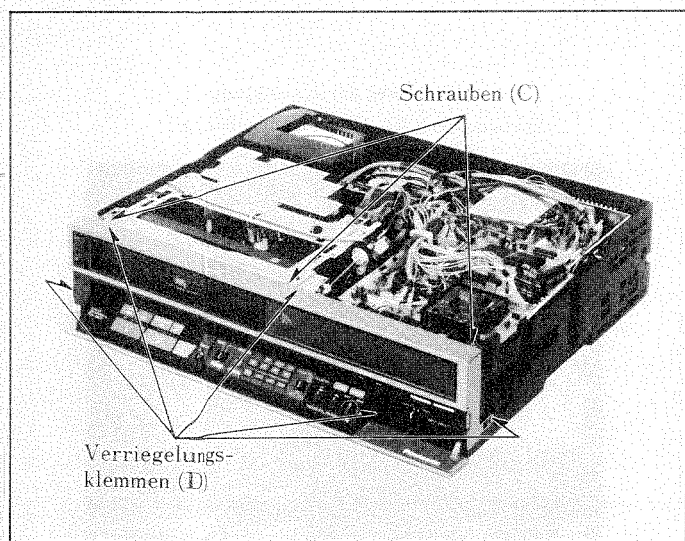


Fig. 4

4. Entfernen der Schutzplatte

Die 5 Schrauben (E) lösen und Schutzplatte entfernen.

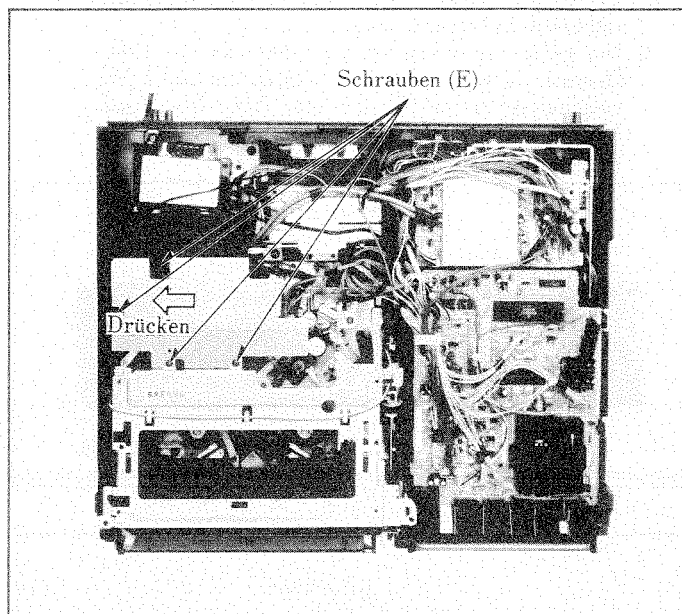


Fig. 5

5. Entfernen des Kassettensfachs

Stecker P1510 von der Platine für Motoranschluß lösen, dann die 2 Schrauben (F) herausdrehen. Kassettensfach vorsichtig entfernen.

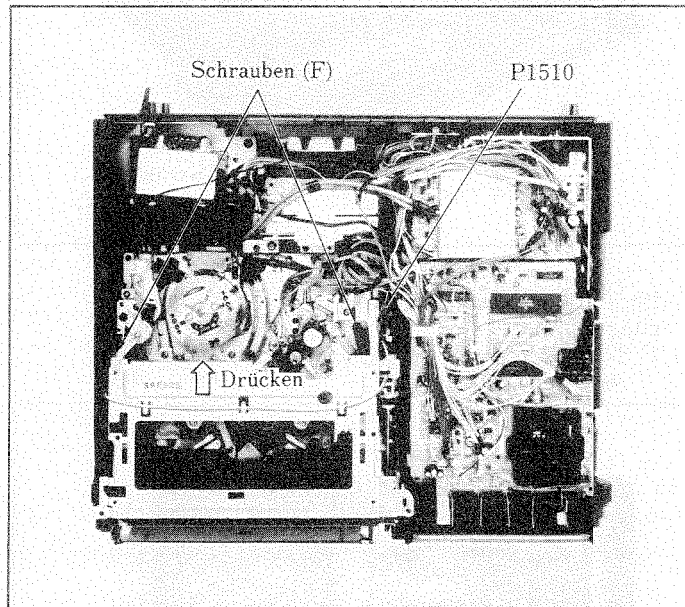


Fig. 6

6. Herausklappen der Timer-Platine und Timer-Operationsplatine

- 1) Die beiden Schrauben (I) lösen, dann die Anschlußröhre vom Kabelbaum lösen.
- 2) Die beiden Sperrlaschen (J) lösen und die Timer-Operationsplatine nach vorn ziehen, bis die 2 Verriegelungsklemmen (K) freisind. Dann die Timer-Platine und die Timer-Operationsplatine herausklappen.

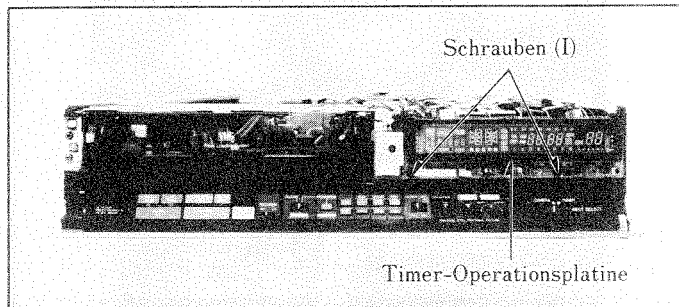


Fig. 7

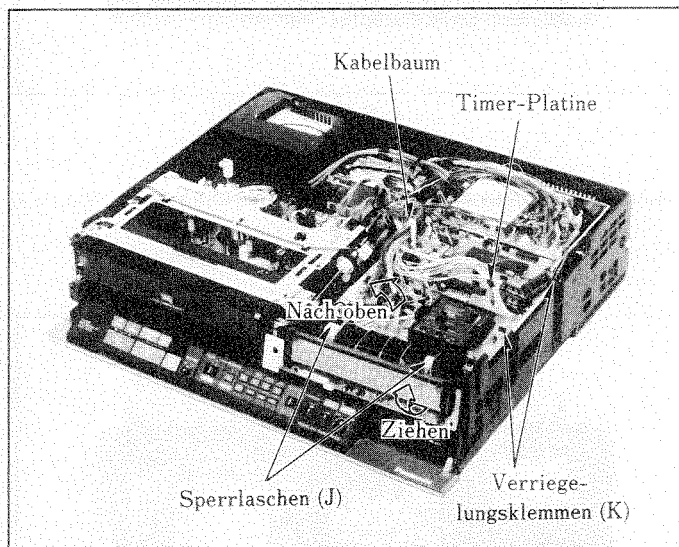


Fig. 8

7. Herausklappen der Kopfverstärker- & Stromversorgungsplatine

- 1) Die 2 Verriegelungsklemmen (L) lösen und die Platine herausklappen.

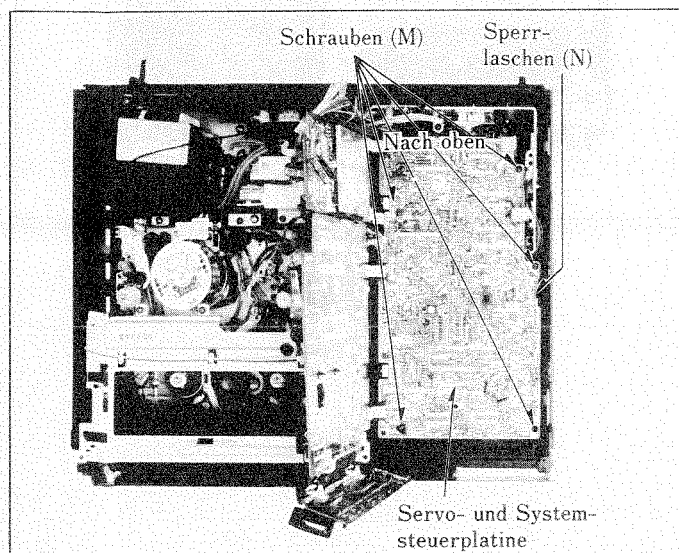


Fig. 9

8. Herausklappen der Servo- & Systemsteuerplatine

- 1) Timer-, Timer-Operations-, Kopfverstärker- & Stromversorgungs- platinen herausklappen.
- 2) Die 5 Schrauben (M) lösen, dann die Sperrlasche (N) freigeben. Jetzt kann die Servo- und Systemsteuer- platine herausgeklappt werden.

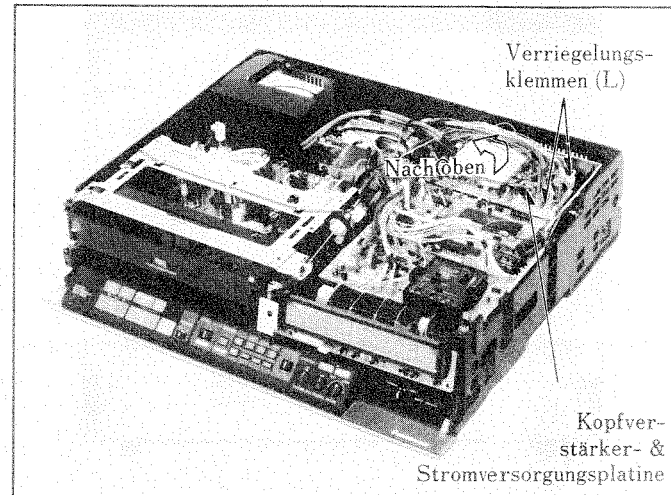


Fig. 10

9. Entfernen der untersten Platine

- 1) Bodenplatte und den Erdungsanschluß entfernen.
- 2) Die beiden Sperrlaschen (O) lösen, dann den Stützwinkel der Frontklappe entfernen.
- 3) Die 3 Schrauben (P) lösen, dann die 2 Sperrlaschen (Q) freigeben. Jetzt ist die unterste Platine zugänglich.

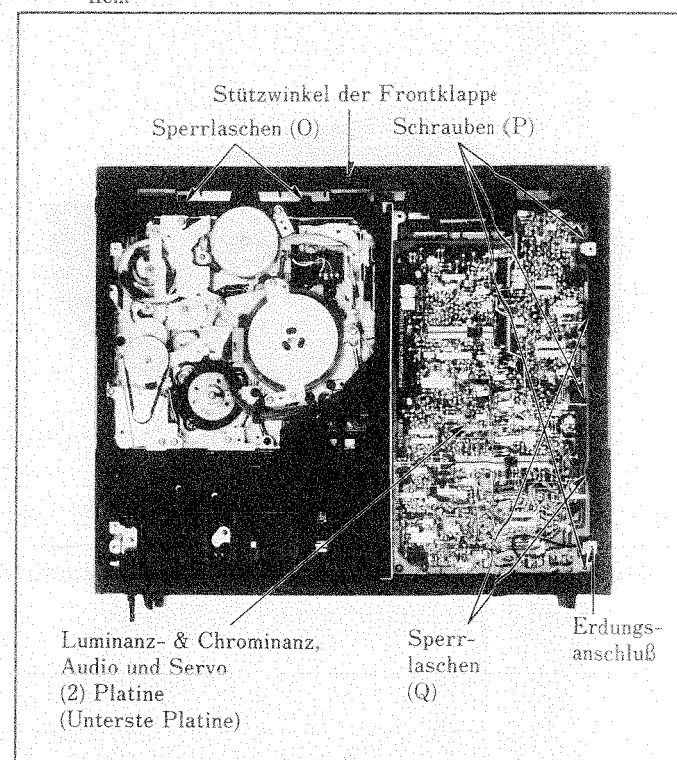


Fig. 11

10. Entfernen der Frontklappe

- 1) Bodenplatte und den stützwinkel der Frontklappe entfernen, dann die unterste Platine herausklappen.
- 2) Den biegsamen Anschluß vom Stecker P6506 sowie den Erdungsanschluß lösen.
- 3) Die 4 Schrauben (R) herausdrehen, dann die Frontklappe abnehmen.

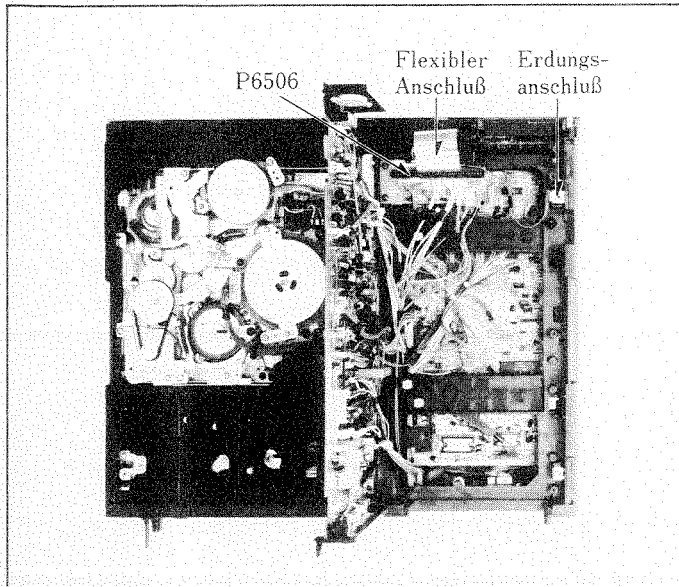


Fig. 12

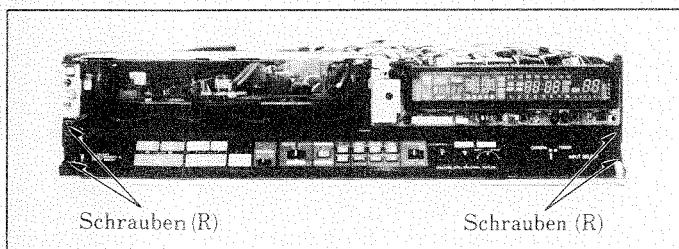


Fig. 13

Hinweis:

Beim Anbringen der Frontklappe darauf achten, daß die Pfeilmarkierung entsprechend der unteren Abbildung ausgerichtet wird.

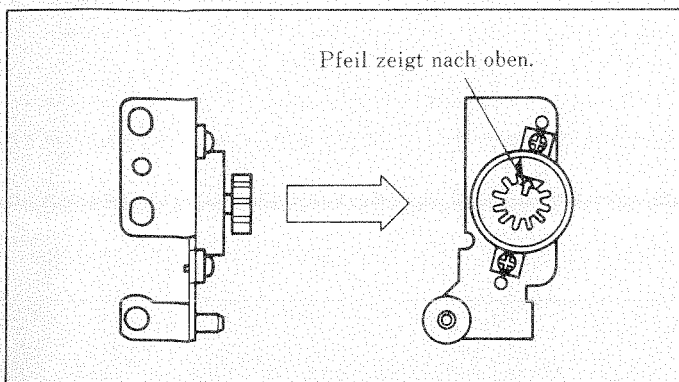


Fig. 14

2.2.3 Demontage der Frontklappe

1. Entfernen des Bedienungsfelds und der Bedienungselemente

- 1) Die 5 Schrauben (A) lösen, dann das Tastenfeld sowie die Verriegelungsplatte entfernen.
- 2) Die 3 Regler für Lautstärke' (B) entfernen, die beiden Verriegelungsklemmen (C) lösen.
- 3) Dann das Tastenfeld entfernen.

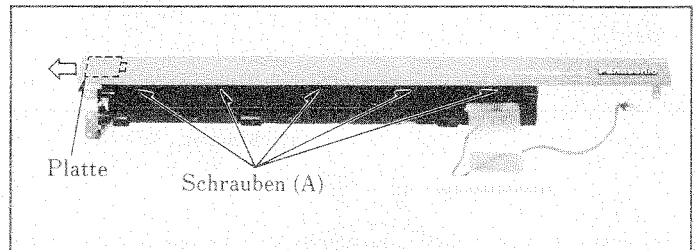


Fig. 15

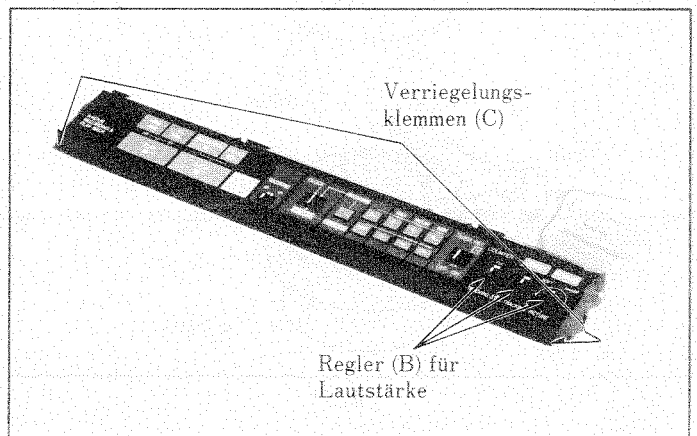


Fig. 16

2. Herausklappen der Bedienungsfeldplatine

- 1) Den biegsamen Anschluß von P6801 lösen, dann Schraube (D) her ausdrehen. Jetzt den Erdungsanschluß entfernen.
- 2) Schraube (E) lösen und die Platine herauschieben. Dann die Platine entfernen.

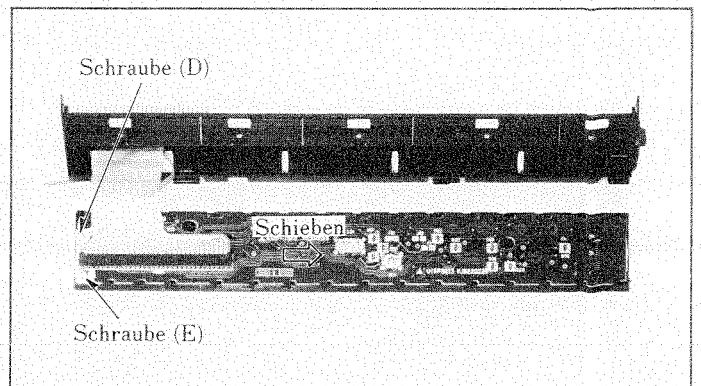


Fig. 17

2.2.4 Austausch der Videokopfscheibe

1. Entfernen der Videokopfscheibe

Die beiden Schrauben (A) lösen, die 4 Anschlußdrähte ablöten. Dann die Videokopfscheibe abnehmen.

2. Einbau der Videokopfscheibe

Beim Einbau der neuen Videokopfscheibe darauf achten, daß die einzelnen Farben beim Anschließen zwischen oberer und unterer Baugruppe genau eingehalten werden.

Abschließend die 4 Anschlußdrähte wieder anlöten und die 2 Schrauben (A) anziehen.

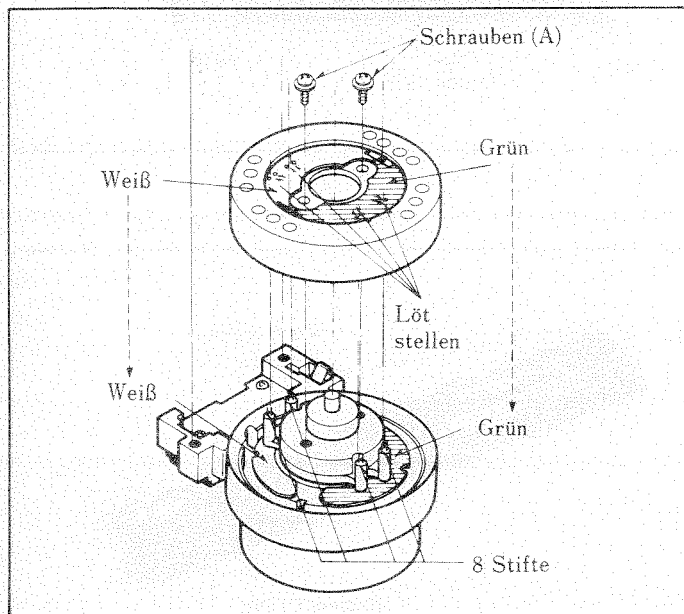


Fig. 18

2.3. ELEKTRISCHER ABGLEICH

In diesem Abschnitt werden alle elektrischen Abgleicharbeiten beschrieben, die für die elektronischen Schaltkreise des Videorecorders VHS NV-730 erforderlich sind.

2.3.1. Werkzeuge und Meßinstrumente

Es sind folgende Werkzeuge und Meßinstrumente erforderlich:

1. Ein Röhrenvoltmeter oder ein Digital-Voltmeter
Spannungsbereich: 0,001-50V
2. Zweistrahl-Oszilloskop
Spannungsbereich: 0,005-50V/Teilstrich
Frequenzbereich: DC-10MHz
Tastköpfe: 10:1 oder 1:1
3. Frequenzzähler
Frequenzbereich: 0-10MHz
4. Sinusgenerator
Frequenzbereich: 0-10MHz
5. Wobbelgenerator
Frequenzbereich: 0-10MHz
6. Farbfernsehgerät (Monitor)
7. Isolierschraubenzieher
8. VHS-Abgleichkassette (VFJ8125H3F)

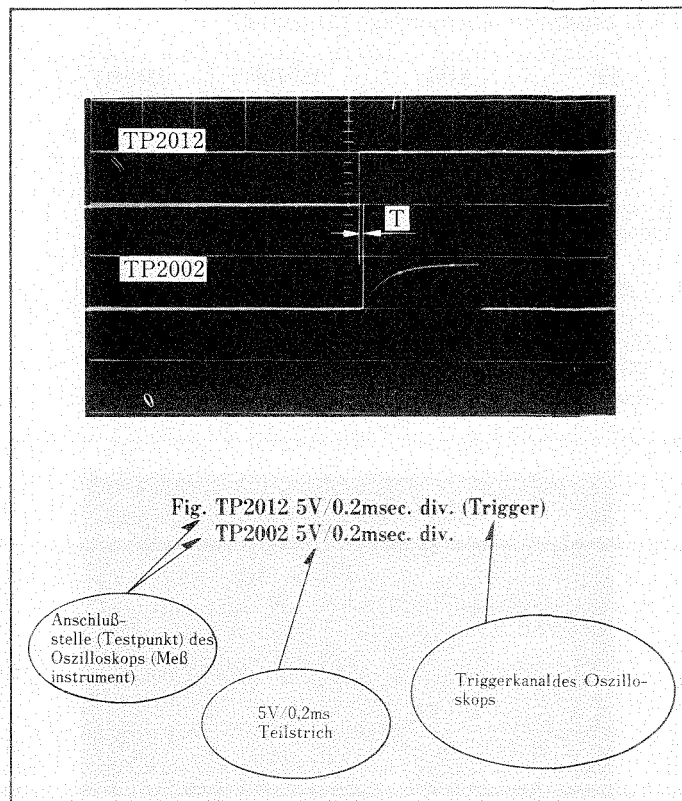


Fig. 2

2.3.2. Erklärung zum richtigen Lesen der Einstelltabellen

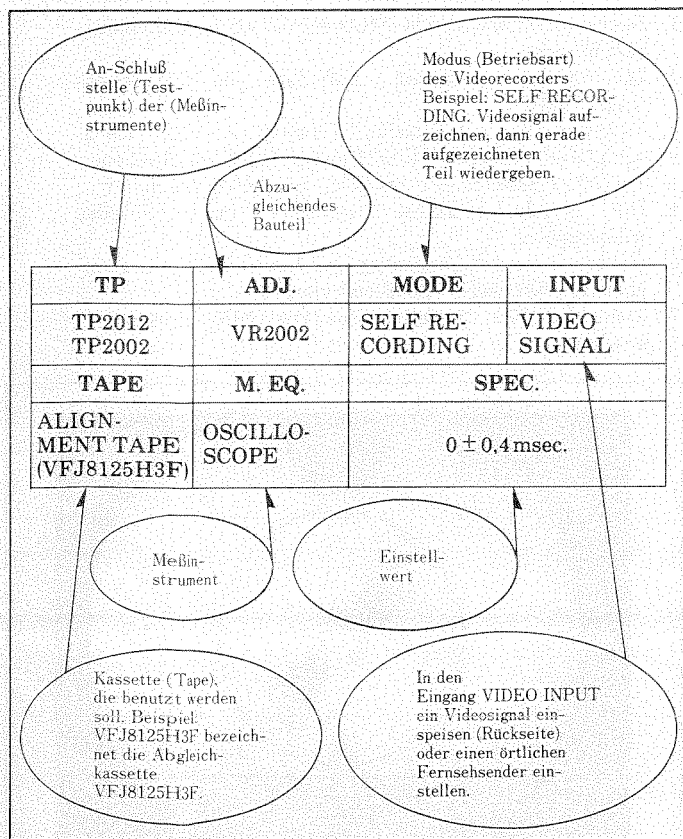


Fig. 1

SERVOTEIL

2.3.3. Einstellung der Lage des Kopfschaltimpulses

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	M. EQ.	SPEC.	
ALIGN- MENT TAPE (VFJ8125H3F)	OSCILLO- SCOPE	7.0 ± 0.5H	

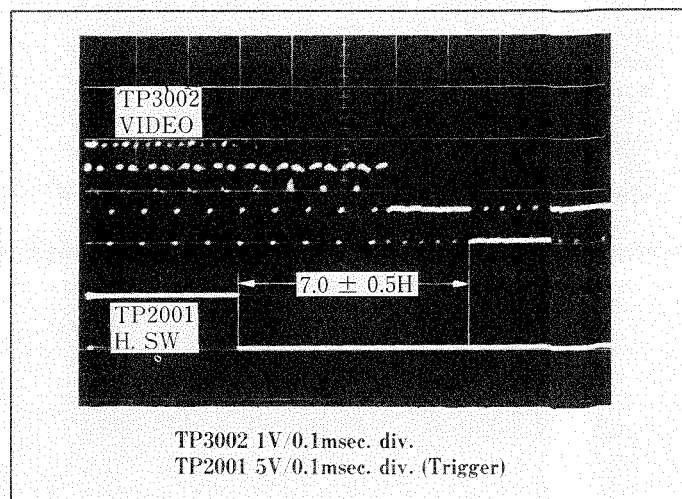


Fig. 3

2.3.4. Einstellen der Spurlage (Tracking)

TP	ADJ.	MODE	INPUT
TP2012 TP2002	VR2002	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE	$T=0 \pm 0,4 \text{ msec.}$	

1. TRACKING VR (Regelwiderstand) steht auf der mittleren Festposition.
2. Die gerade gemachte Aufnahme wiedergeben.
3. VR2002 entsprechend unterer Abbildung auf $\pm 0,4 \text{ ms}$ einstellen.

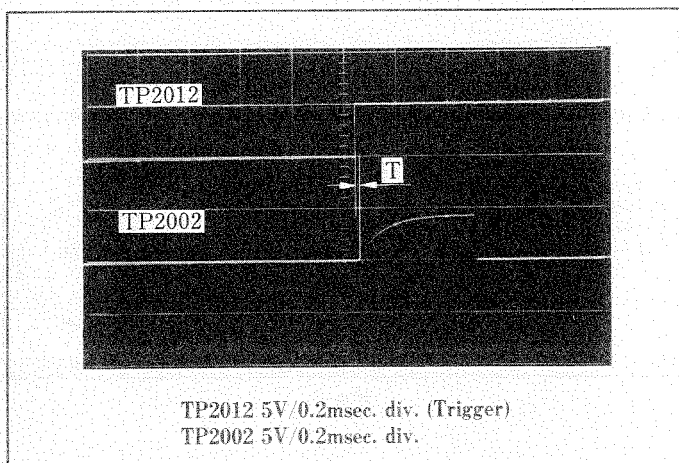


Fig. 4

2.3.5. Einstellung der Standbildsynchronisation

TP	ADJ.	MODE	INPUT
/	VR2010 VR2009	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	Monitor TV		

1. Die gerade gemachte Aufnahme im SP-Modus wiedergeben und den Kas-settenrecorder auf Standbild einschalten.
2. VR2010 einstellen, bis das Zittern des Bildes verschwindet.
3. Die gerade gemachte Aufnahme im LP-Modus wiedergeben und das Gerät auf Standbild schalten.
4. Jetzt VR2009 einstellen, bis das Zittern verschwindet.

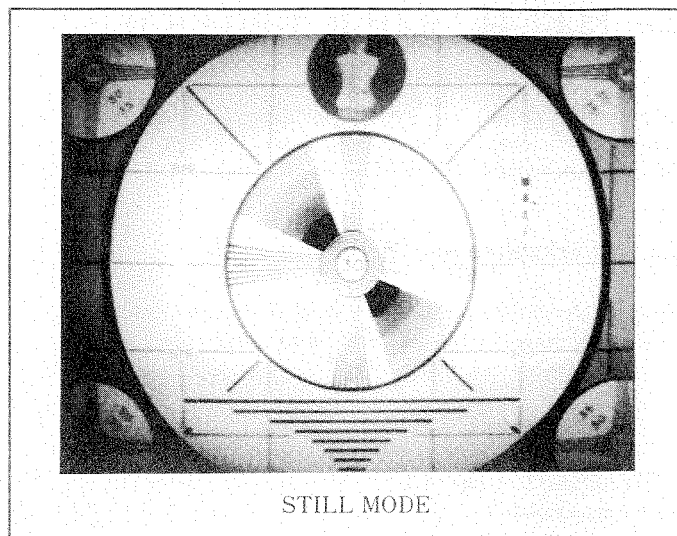


Fig. 5

2.3.6. Einstellen der Zeitlupenfunktion

TP	ADJ.	MODE	INPUT
/	VR2011 VR2006	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	Monitor TV		

1. Regelwiderstand SLOW TRACKING VR in Mittenposition bringen.
2. Die gerade gemachte Aufnahme im SP-Modus wiedergeben.
3. Videorecorder auf Standbild schalten und einen Kurzschlußdraht zwischen TP3021 und TP3022 anschließen.
4. VR2011 einstellen, bis das Bild einwandfrei erscheint.
5. Die gerade gemachte Aufnahme im LP-Modus wiedergeben.
6. Gerät auf Standbild schalten und Kurzschlußdraht zwischen TP3021 und TP3022 anschließen.
7. Jetzt VR2006 einstellen, bis das Bild einwandfrei erscheint.

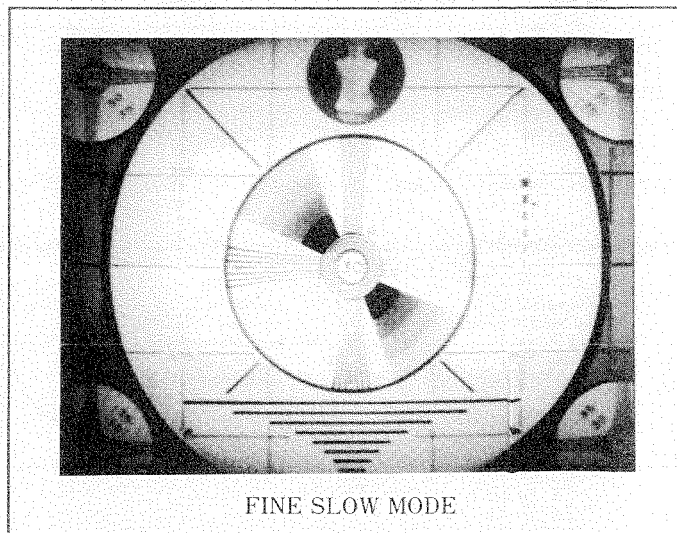


Fig. 6

LUMINANZ-, CHROMINANZ- & KOPFVERSTÄRKERTEIL

2.3.7. Einstellung des Aufnahmestroms des Luminanzteils

TP	ADJ.	MODE	INPUT
TP5007 (SP HOT) TP5008 (SP GND) TP5003 (LP HOT) TP5004 (LP GND)	VR3001 (SP)	REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE	150 ± 5mVp-p (SP) 100 ± 20mVp-p (LP)	

- 1. SP/LP-Wahlschalter auf SP einstellen.
- 2. VR3001 regeln, bis der Y-Pegel 150±5mVss beträgt.

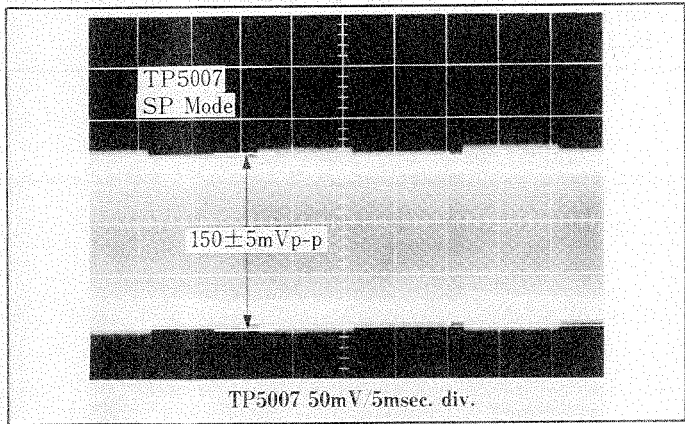


Fig. 7

- 3. SP/LP-Wahlschalter auf LP einstellen.
- 4. Prüfen, ob der Y-Pegel 100±20mVss beträgt.

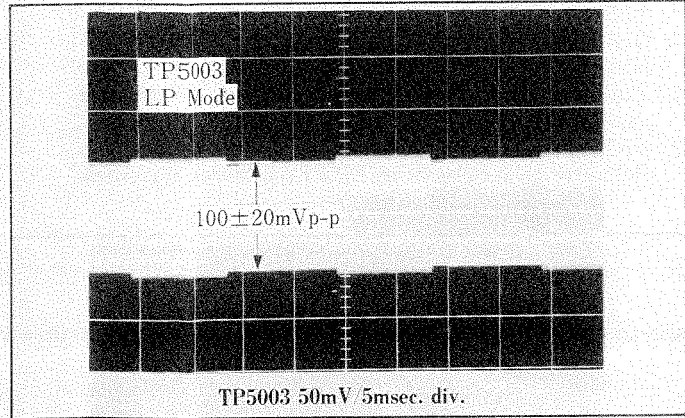


Fig. 8

2.3.8. Überprüfen des Aufnahmestroms des Chrominanzteils

TP	ADJ.	MODE	INPUT
TP5007 (SP HOT) TP5008 (SP GND)		REC • PLAY	VIDEO SIGNAL
TAPE		M. EQ.	SPEC.
BLANK TAPE	OSCILLOSCOPE	28 ± 2mVp-p	

- 1. SP/LP-Wahlschalter auf SP einstellen.
- 2. Kurzschlußdraht zwischen TP5014 und Masse anschließen.

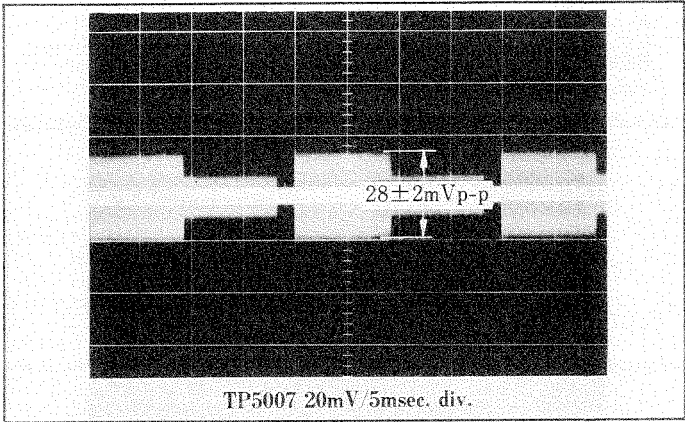


Fig. 9

2.3.9. Überprüfen des Video-Wiedergabepegels

TP	ADJ.	MODE	INPUT
TP3002		SELF RE-CORDING	VIDEO SIGNAL
TAPE		M. EQ.	SPEC.
BLANK TAPE	OSCILLOSCOPE	2.0 ± 0.2Vp-p (Y-LEVEL) 1.1 ± 0.2Vp-p (CYAN-LEVEL)	

- 1. Die gerade aufgezeichnete Aufnahme im SP-Modus wiedergeben.
- 2. Prüfen, ob der Pegel der unteren Abbildung entspricht.
- 3. Die gerade gemachte Aufnahme im LP-Modus abspielen.
- 4. Prüfen, ob der Pegel dem im SP-Modus entspricht.

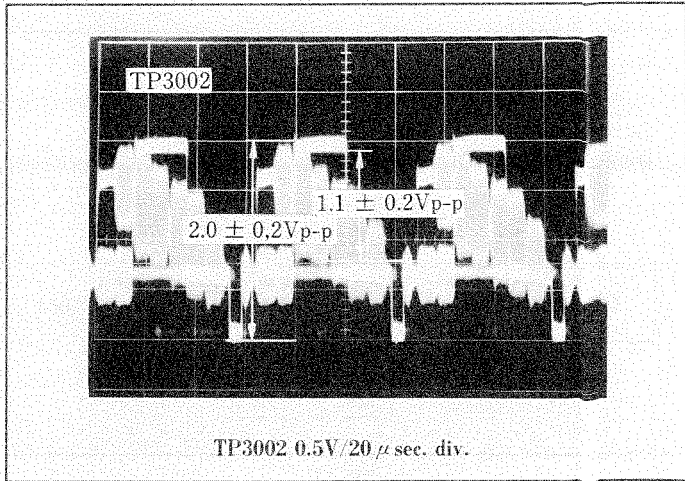


Fig. 10

2.3.10. Abgleich der Kopfverstärker-Spitzenfrequenz

TP	ADJ.	MODE	INPUT
TP5001	VR5003 (SP), VR5004 (SP), C5045 (SP), C5046 (SP), VR5001 (LP), VR5002 (LP), C5043 (LP), C5044 (LP)	PLAY	VIDEO SWEEP TP5007 (SP), TP5010 (SP), TP5003 (LP), TP5009 (LP)
TAPE	M. EQ.	SPEC.	
EMPTY CASSETTE TAPE	VIF SWEEP/ OSCILLO- SCOPE	2MHz:4.6MHz=1:3 (SP) 2MHz:4.9MHz=1:3 (LP)	

1. Den Ausgang des Wobbelgenerators auf 100mVss ohne Belastung einstellen und eine Marke bei 2MHz, 4,6 MHz und 4,9 MHz einblenden.

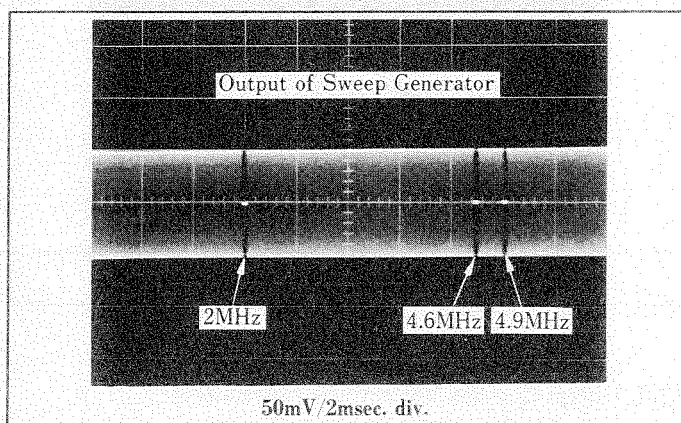


Fig. 11

2. Wobblerausgang über 39k Ω -Widerstände entsprechend unterer Abbildung an TP5007 und TP5010 anschließen.

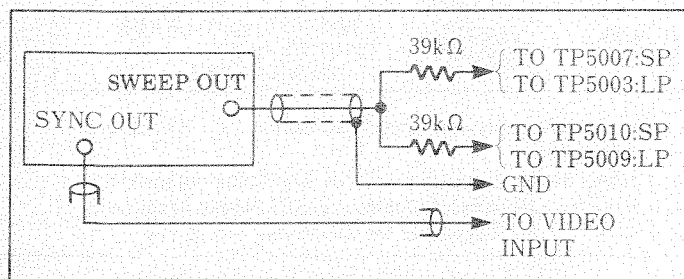


Fig. 12

3. Jetzt das Oszilloskop über eine Filterschaltung, wie unten gezeigt, an TP5001 anschließen.

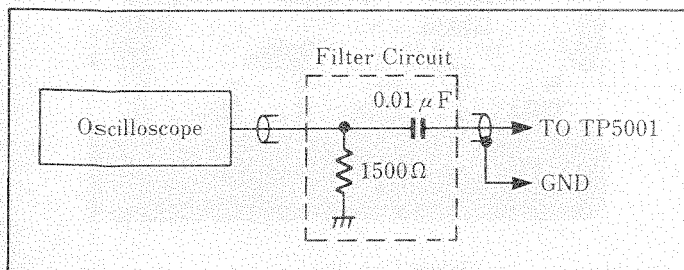


Fig. 13

4. VR5004 (Q-L) und VR5003 (Q-R) einstellen, bis die Hüllkurven beider Kanäle im SP PLAY-Betrieb der unteren Abbildung entsprechen.

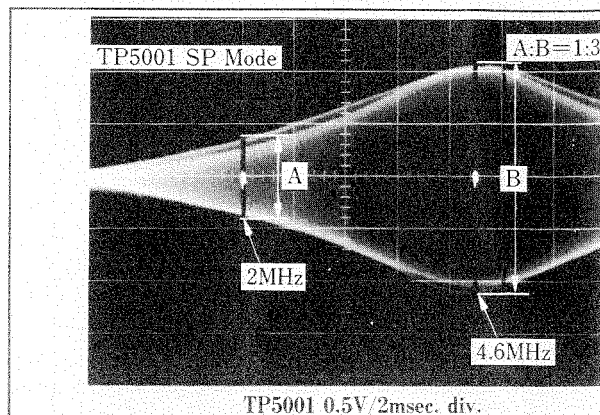


Fig. 14

5. C5046 (PEAK-L) und C5045 (PEAK-R) einstellen, bis die Spitzenwerte 4,6MHz entsprechen. Auch hier ist SP PLAY vorgegeben.

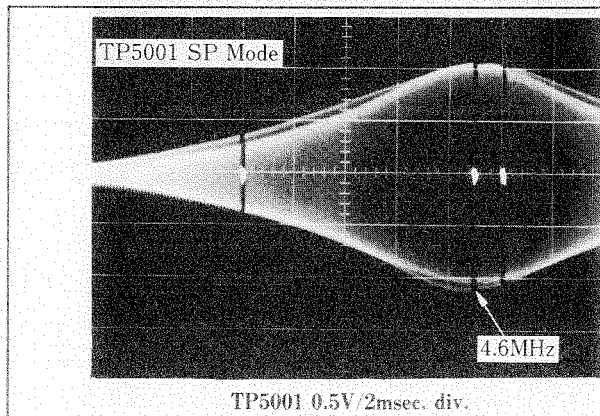


Fig. 15

6. Den Wobblerausgang durch 39k Ω -Widerstände an TP5003 und TP5009 anschließen.
7. Oszilloskop über die Filterschaltung mit TP5001 verbinden.
8. Zwischen TP5011 und TP5012 einen 1k Ω -Widerstand anschließen.
9. VR5001 (Q-L) und VR5002 (Q-R) auf die unten gezeigte Hüllkurve beider Kanäle im LP PLAY-Modus einstellen.

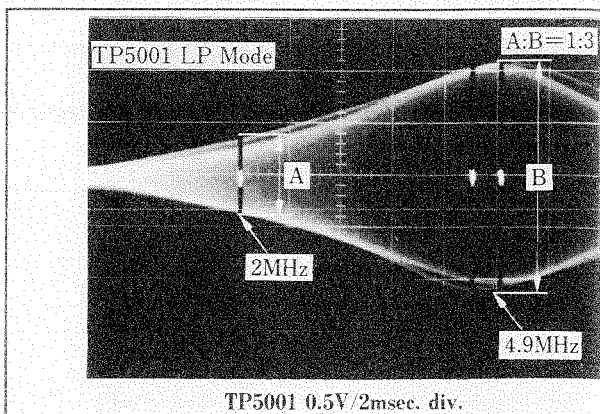


Fig. 16

10. C5043 (PEAK-L) und C5044 (PEAK-R) regeln, bis die Pegel, wie unten gezeigt, im LP PLAY-Modus 4,9MHz annehmen.

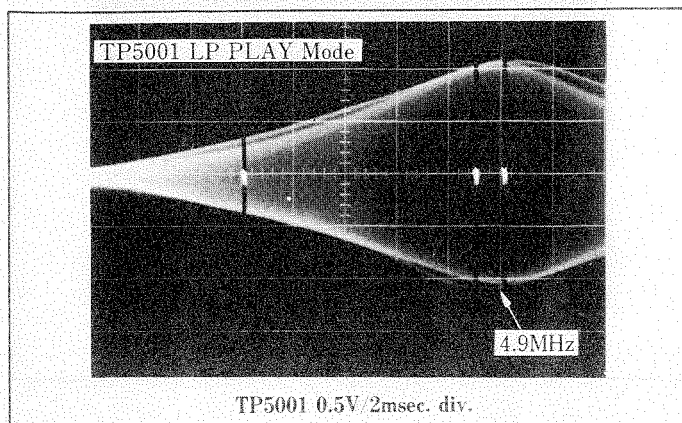


Fig. 17

2.3.11. Einstellung des Frequenzgangs

TP	ADJ.	MODE	INPUT
TP3002	VR5003 (SP), VR5004 (SP), VR5001 (LP), VR5002 (LP)	SELF RE- CORDING	VIDEO SWEEP
TAPE	M. EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ OSCILLO- SCOPE		

1. Wobblerausgang entsprechend unterer Abbildung einstellen.

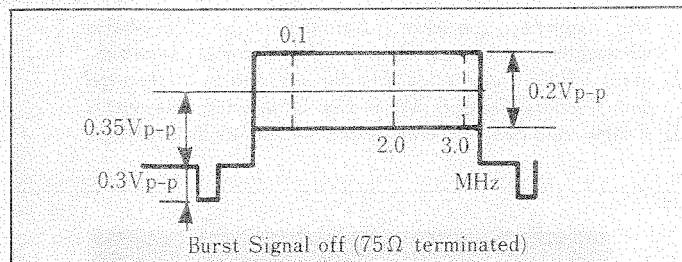


Fig. 18

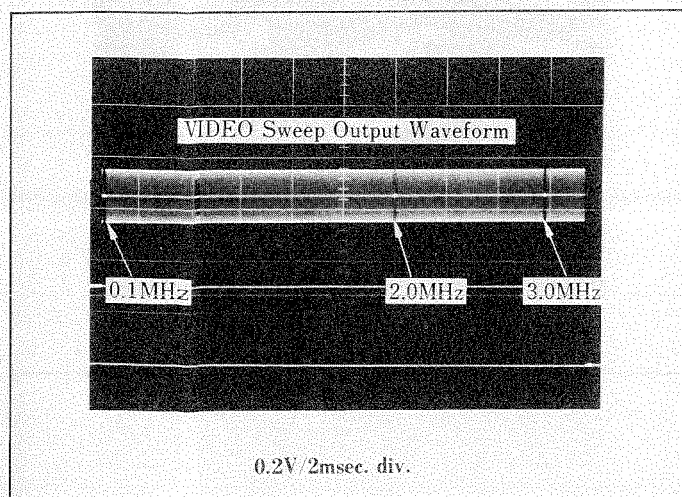


Fig. 19

2. Der Regelwiderstand PICTURE VR befindet sich in Mittenposition.

3. Die gerade gemachte Aufnahme im SP-Modus wiedergeben.
4. VR5004 und VR5003 einstellen, bis die Wellenform der unteren Abbildung entspricht.

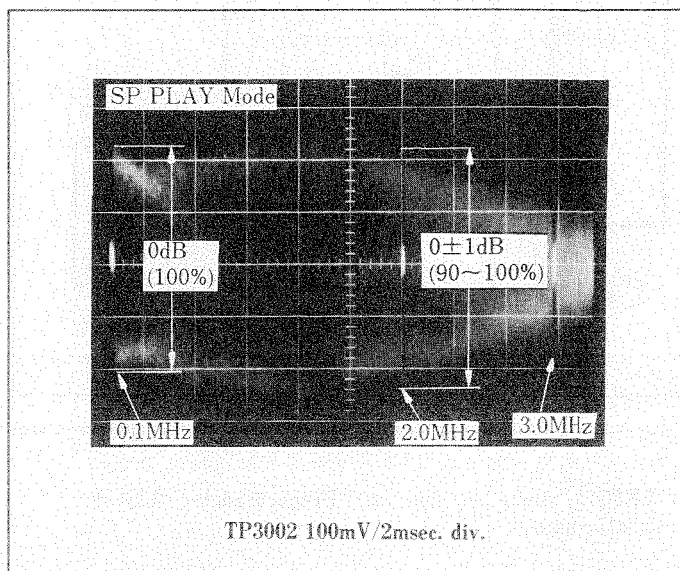


Fig. 20

5. Jetzt die gerade gemachte Aufnahme im LP-Modus wiedergeben.
6. VR5001 und VR5002 einstellen, bis die Wellenform der unteren Abbildung entspricht.

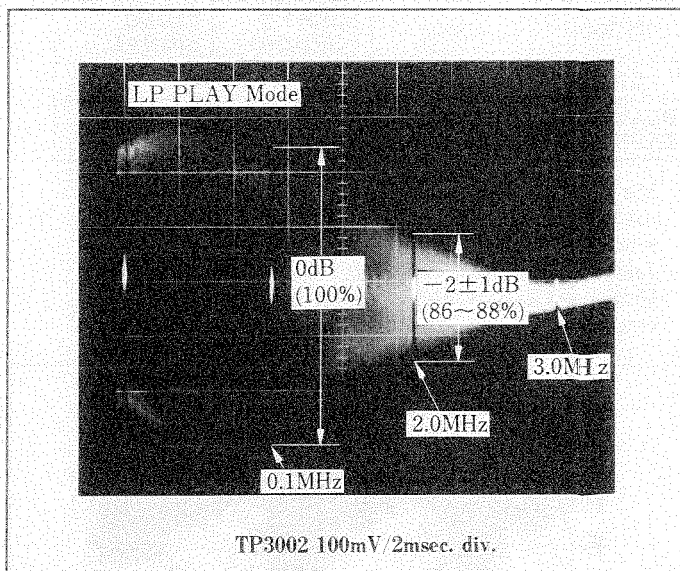


Fig. 21

2.3.12. Einstellung der VCO-Freilauffrequenz

TP	ADJ.	MODE	INPUT
TP3020	VR3010	REC • PLAY (LP)	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	FREQUEN- CY COUNTER	33.0 ± 0.1 kHz	

1. SP/LP-Wahlschalter auf LP stellen.
2. Kein Videosignal einspeisen und Videorecorder auf REC. PLAY schalten.
3. Frequenzzähler anschließen und obige Angaben beachten.

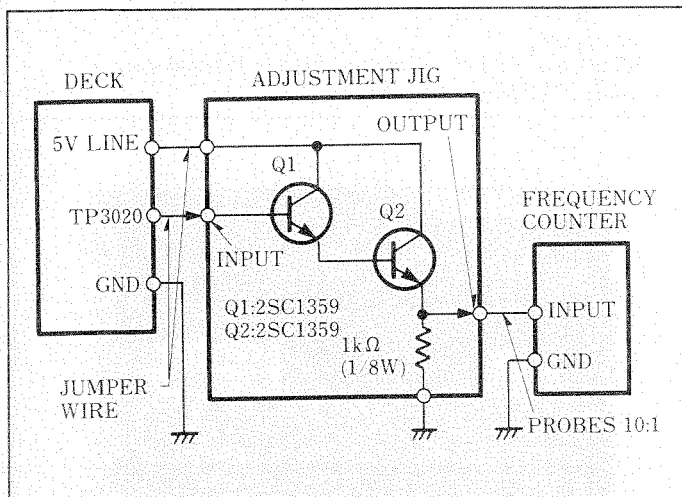


Fig. 22

- VR3010 einstellen, bis der Frequenzzähler $33,0 \pm 0,3\text{kHz}$ anzeigt.

2.3.13. Einstellung des Sprung-Demodulator-Abstimmkreises

TP	ADJ.	MODE	INPUT
TP3002	C3023	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

- Die gerade gemachte Aufnahme im LP-Modus wiedergeben und Kassettenrecorder auf CUE oder REV schalten.
- Jetzt C3023 so einstellen, daß der verzögerte Videopegel dem Wiedergebepegel entsprechend Fig. 24 entspricht.

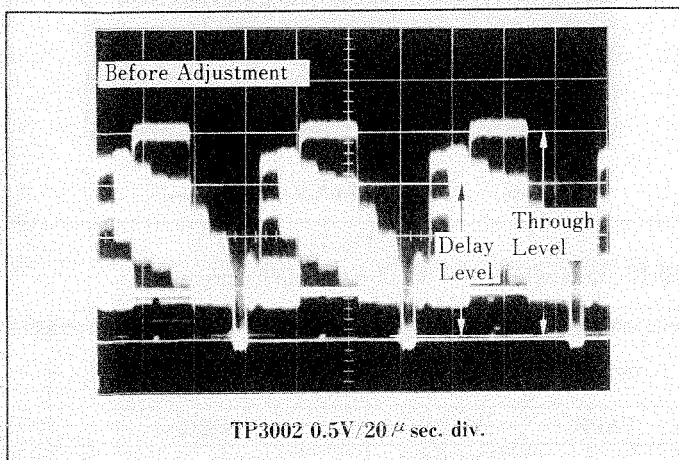


Fig. 23

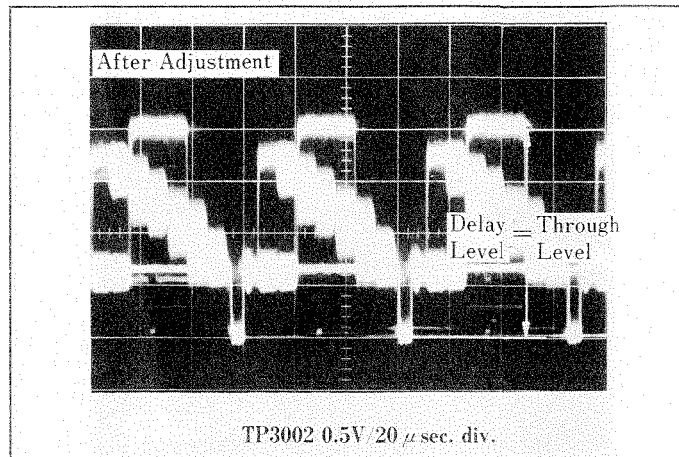


Fig. 24

2.3.14. Einstellen des Sprungverzögerung-Signalpegels

TP	ADJ.	MODE	INPUT
TP3002	VR3009	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

Hinweis:

Diese Einstellung immer erst durchführen, nachdem die Einstellung des Sprung-Demodulator-Abstimmkreises (Abschnitt 2.3.13.) durchgeführt wurde.

- Die gerade gemachte Aufnahme im LP-Modus wiedergeben und Recorder auf CUE oder REV schalten.
- Jetzt VR3009 einstellen, bis der verzögerte Videopegel dem Wiedergebepegel, wie in Fig. 26 gezeigt, entspricht.
- Prüfen, daß das Bild einwandfrei ist und nicht flackert.

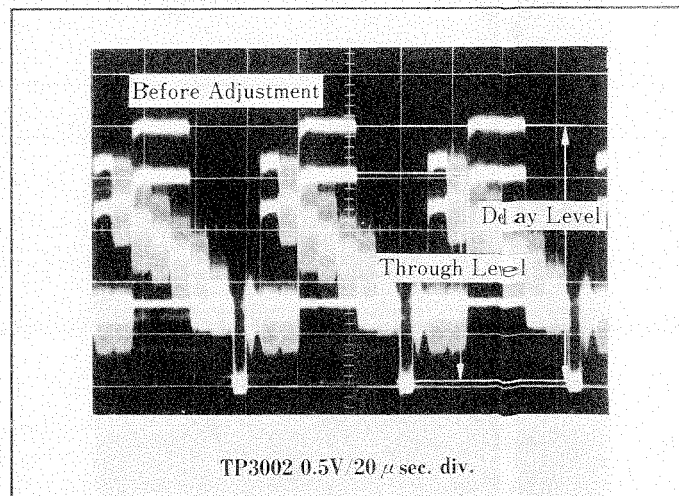


Fig. 25

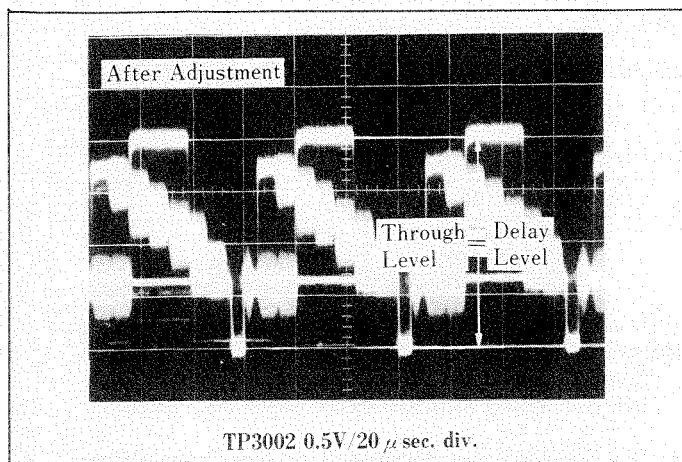


Fig. 26

2.3.15. Abgleich des Chroma-Verzögerungssignallpegels

TP	ADJ.	MODE	INPUT
TP3002	VR8001	SELF RE- CORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

1. Die gerade gemachte Aufzeichnung im LP-Modus abspielen und Video-recorder auf Standbild schalten.
2. VR8001 einstellen, bis der verzögerte Chroma-Pegel so klein wie möglich wird und Fig. 28 entspricht.

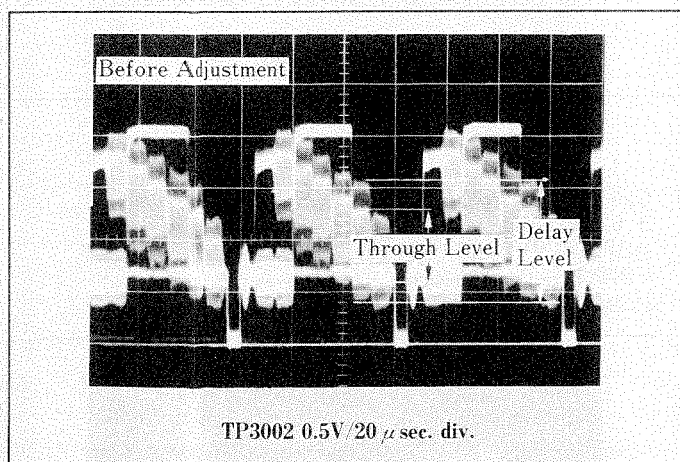


Fig. 27

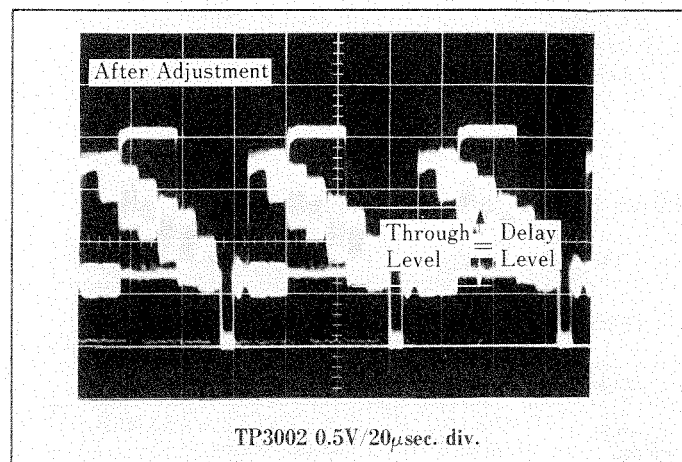


Fig. 28

2.3.16. Einstellung des Secam-Killers (nur NV-730EG)

TP	ADJ.	MODE	INPUT
TP8008	L8015	REC • PLAY	SECAM SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE		

1. L8015 regeln, bis Punkt "A" die minimale Amplitude entsprechend Fig. 29 erreicht.

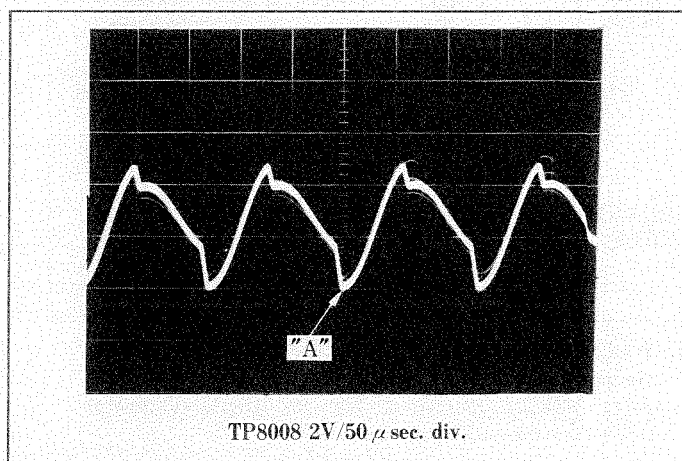


Fig. 29

AUDIOTEIL

2.3.17. Abgleich der Vormagnetisierung

TP	ADJ.	MODE	INPUT
TP4002 (+) TP4003 (-)	VR4002	REC • PLAY	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	4.1 $\pm$ 0.1 mVrms (SP) 3.5 $\pm$ 0.2 mVrms (LP)	

1. SP/LP-Wahlschalter auf SP stellen.
2. VR4002 regeln, bis die Anzeige des Röhrenvoltmeters (V. T. V. M.) 4,1 $\pm$ 0,1 mV eff beträgt.

3. Jetzt den Wahlschalter SP/LP auf LP stellen.
4. Prüfen, ob die Anzeige des Röhrenvoltmeters $3,5 \pm 0,2\text{mV eff}$ be-trägt.

2.3.18. Einstellung des Wiedergabepegels

TP	ADJ.	MODE	INPUT
TP4001	VR4001	SELF RE-CORDING	1kHz 0dB AUDIO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	SIGNAL GE- NERATOR/ V.T.V.M.	E-E LEVEL = $-8 \pm 1,5\text{dB}$ P.B LEVEL = E-E LEVEL $\pm 0,5\text{dB}$	

1. Die gerade gemachte Aufnahme im SP-Modus wiedergeben.
2. VR4001 einstellen, bis der Wiedergabepegel unter $\pm 0,5\text{dB}$ liegt
(im Vergleich mit E-E-Pegel).

SYSTEMSTEUERUNGSTEIL

2.3.19. Spannungseinstellung für die Wickelmotoren

TP	ADJ.	MODE	INPUT
TP6005 (+) TP6002 (-)	VR6002	REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
		MARKING	VOLTAGE (mV)
BLANK TAPE	D.V.M.	GREEN	200 ~ 210
		BLACK	190 ~ 200
		ORANGE	180 ~ 190
		RED	170 ~ 180
		BLUE	160 ~ 170

1. Wahlschalter SP/LP auf SP-Modus setzen und das Gerät auf REC. PLAY schalten.
2. Jetzt VR6002 einstellen, bis das Digital-Voltmeter (DVM) der Spe-zifikation entspricht.

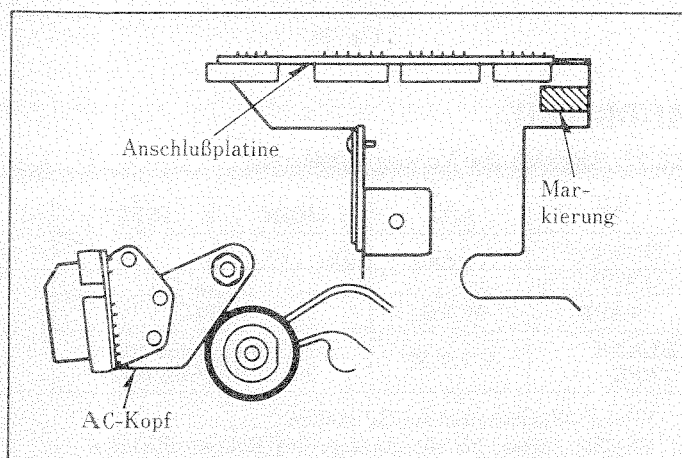


Fig. 30

TIMER

2.3.20. Einstellen der Timer-Rückstellung (IC7501)

TP	ADJ.	MODE	INPUT
TP7501	R7509		
TAPE	M. EQ.	SPEC.	
	OSCILLO- SCOPE/ DC POWER SUPPLY	7.8msec. (Adjustment) 62msec. (Confirmation)	

Hinweis:

Stecker P7505 lösen.
Den Wechselstromanschlußstecker nicht anschließen.

1. Das Gleichstromversorgungsteil auf eine Spannung von $3,7 \pm 0,05\text{V}$ einstellen. Dann das Gleichstromversorgungs-teil (DC POWER SUPPLY) an TP7504 (+) und Mas-se (-) anschließen.
2. Jetzt R7509 entsprechend der unteren Abbildung auf 7,8ms einstellen.

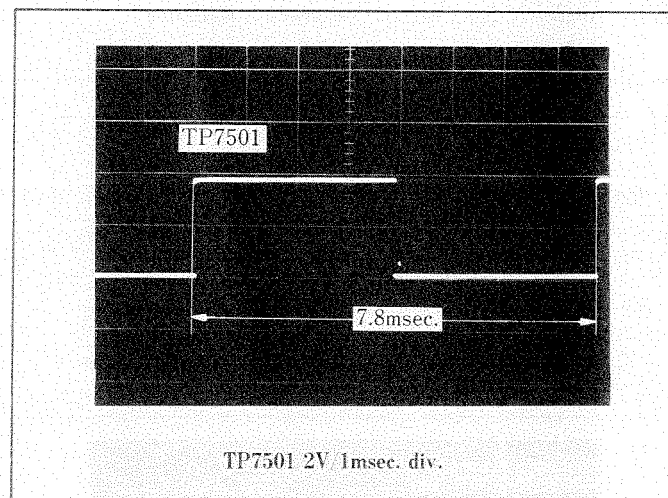


Fig. 31

3. Gleichstromversorgungsteil auf eine Spannung von $3,58 \pm 0,05\text{V}$ einstellen. Dann das Gleichstromversorgungs-teil (DC POWER SUPPLY) an TP7504 (+) und TP7501 (-) anschließen.
4. Prüfen, ob das untere Zeitdiagramm erfüllt ist.

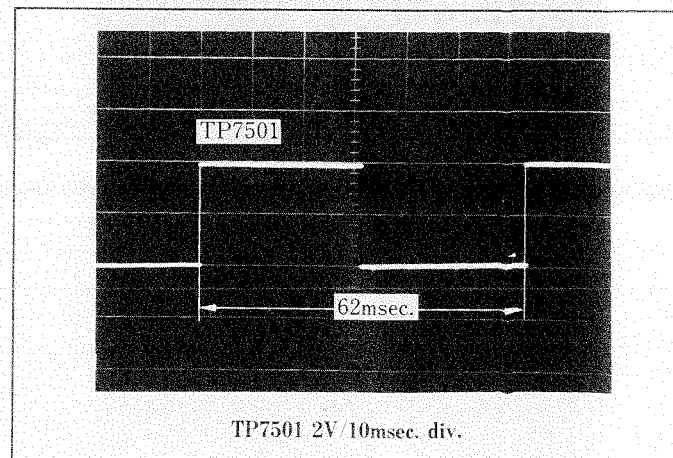


Fig. 32

2.3.21. Einstellen der Timer-Rückstellung (IC7503)

TP	ADJ.	MODE	INPUT
TP7501	R7533		
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE DC POWER SUPPLY	62msec. (Adjustment) 7.8mséc. (Confirmation)	

Hinweis:

Stecker P7505 trennen.
Den Wechselstromstecker nicht anschließen.
Diese Einstellung darf nur erfolgen, nachdem Abschnitt 2.3.20. durchgeführt wurde. (IC 7501)

1. Das Gleichstromversorgungssteil auf eine Spannung von $4,4 \pm 0,05V$ einstellen. Dann das Gerät (DC POWER SUPPLY) an TP7505 (+) und Masse (-) anschließen.
2. Einen Schaltdraht zwischen TP7504 und TP7505 anschließen.
3. Jetzt R7533 einstellen, bis 62 ms entsprechend der unteren Abbildung erzielt werden.

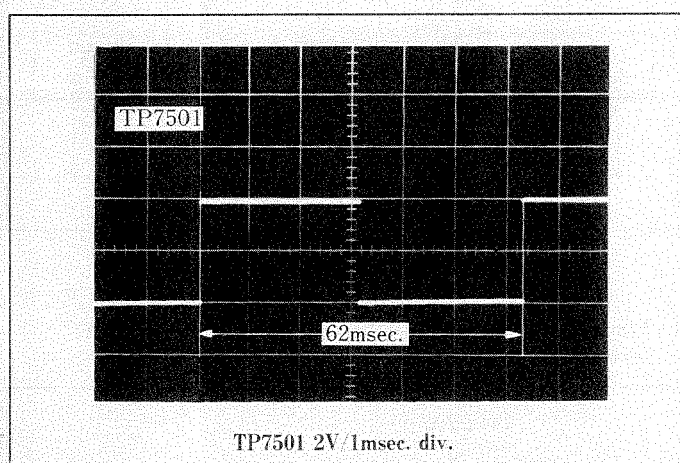


Fig. 33

4. Gleichstromversorgungssteil auf eine Spannung von $4,6 \pm 0,05V$ einstellen und dann an TP7505 (+) und Masse (-) anschließen.
5. Prüfen, ob folgendes Zeitdiagramm eingehalten wird.

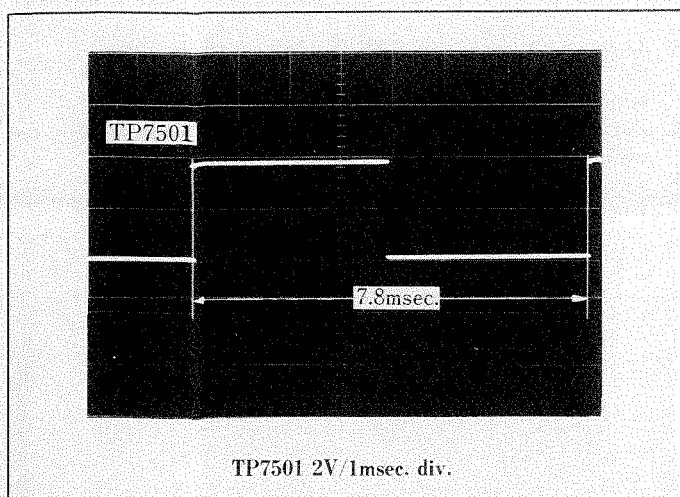


Fig. 34

2.3.22. Einstellen der Timer-Taktfolge (IC7501)

TP	ADJ.	MODE	INPUT
TP7501	C7502		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER DC POWER SUPPLY	$128 \pm 0.00168Hz$	

Hinweis:

Stecker P7505 trennen.
Den Wechselstromstecker nicht anschließen.
Diese Einstellung nur durchführen, nachdem der Abgleich entsprechend Abschnitt 2.3.20. (IC7501) und Abschnitt 2.3.21. (IC7503) erfolgreich durchgeführt wurde.

1. Gleichstromversorgungssteil auf eine Spannung von $5,8 \pm 0,1V$ einstellen. Dann das Gleichstromversorgungssteil mit P7502-(7) (+) und Masse (-) verbinden.
2. C7502 einstellen, bis der Frequenzzähler $128 \pm 0,00168Hz$ anzeigt.

2.3.23. Einstellen der Timer-Taktfolge (IC7506)

TP	ADJ.	MODE	INPUT
TP7509	R7515		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER DC POWER SUPPLY	$18.5 \sim 20.8kHz$	

Hinweis:

Stecker P7505 trennen.
Den Wechselstromstecker nicht anschließen.
Diese Einstellung nur durchführen, nachdem der Timer-Abgleich entsprechend Abschnitt 2.3.20. (IC7501) und Abschnitt 2.3.21. (IC7503) erfolgreich durchgeführt wurde.

1. Zwischen TP7504 und TP7509 einen, $3,3k \Omega$ -Widerstand anschließen.
2. Die Spannung des Gleichstromversorgungssteils auf $5,8 \pm 0,1V$ einstellen, dann das Gerät mit BP7502-(8) (+) und Masse (-) verbinden.
3. R7515 einstellen, bis der Frequenzzähler $18,5-20,8kHz$ anzeigt.

2.3.24. Einstellen der Timer-Dämpfungs-Frequenz

TP	ADJ.	MODE	INPUT
TP7508	R7595		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER/ DC POWER SUPPLY	15.625 ± 50 (Hz)	

Hinweis:

Stecker P7505 trennen.

Den Wechselstromstecker nicht anschließen.

1. Das Gleichstromversorgungsnetzteil auf eine Spannung von $12.0 \pm 0.3V$ einstellen. Dann das Gerät an P7501 (11) (+) und TP7507 (-) anschließen.
2. Frequenzzähler entsprechend der unteren Abbildung anschließen.

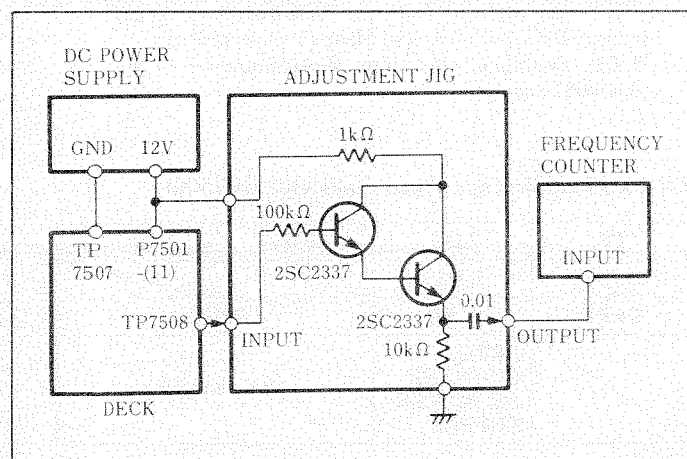


Fig. 35

3. R7595 justieren, bis der Frequenzzähler $15.625 \pm 50Hz$ anzeigt.

TV DEMODULATOR

MODELL-NR. NV-730EG/EO

2.3.25. Werkzeuge und Meßinstrumente

Für die einzelnen Arbeiten folgende Geräte bereithalten.

1. VIF-Wobbelgenerator mit Trap-Funktion 38.9MHz
2. SIF-Wobbelgenerator 5.5MHz ± 150kHz
3. CW-Oszillator 38.9MHz ± 100kHz
4. Monitor-Oszilloskop
5. Oszilloskop
6. Digital-Voltmeter

2.3.26 Selektivspule-Einstellung

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE	A=2Vp-p B=38.9MHz	

1. BAND-Schalter des Videorecorders nach oben auf VHF (VH) stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners 15V beträgt.
2. AFC-Schalter am Recorder ausschalten (OFF-Position).
3. VIF-Wobbler an TP703 und Monitor-Oszilloskop an TP707, wie unten gezeigt, anschließen.

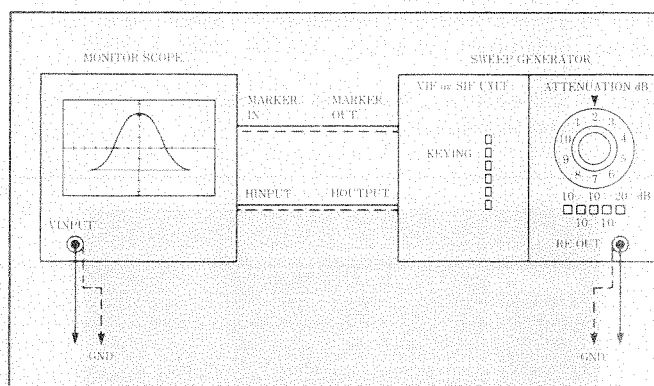


Fig. 36 Anschluß der Meßgeräte

4. Einstellpoti, wie unten gezeigt, mit TP709 und P703-11 verbinden.

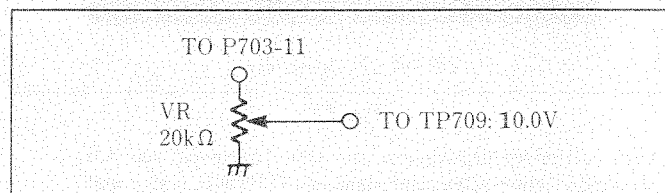


Fig. 37 Einstellpoti

5. Jetzt den Ausgang des VIF-Wobbelgenerators einstellen, bis ein Pegel, wie in Fig. 38 gezeigt, von 2 Vss erzielt wird.
6. Zur Einstellung T704 2 Umdrehungen nach links oder rechts drehen.
7. T703 so einstellen, daß die Marke bei 38.9MHz entsprechend der Abbildung zum Spitzenpegel wird.

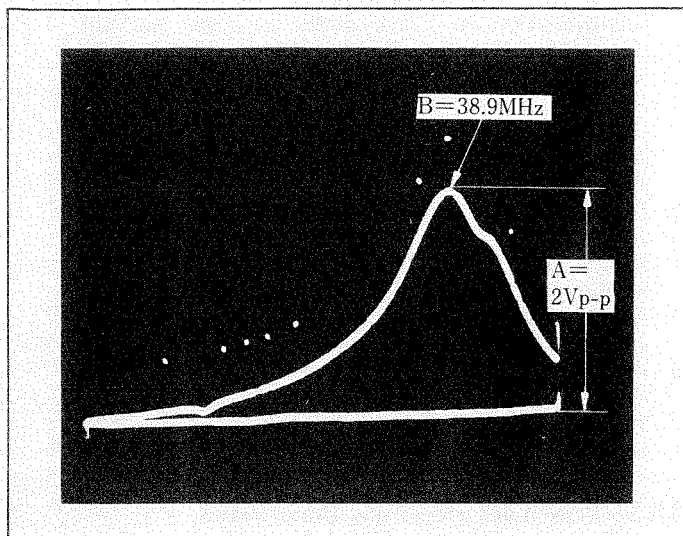


Fig. 38

8. Dann T704 so einstellen, daß die Marke bei 38,9MHz die unten ge-zeigte Form annimmt.

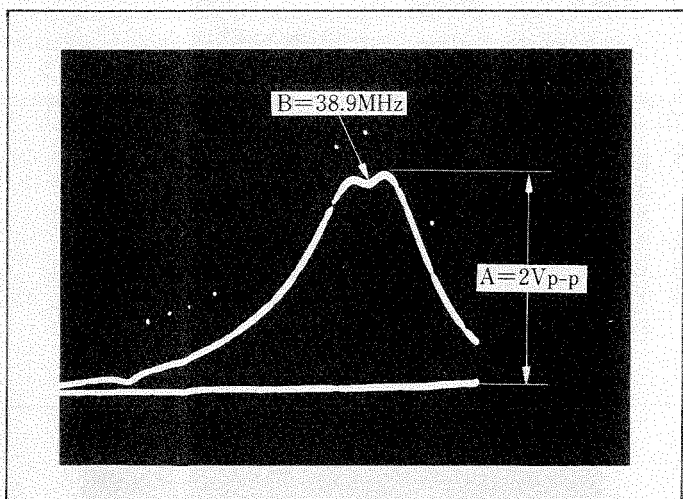


Fig. 39

4. VIF-Wobbelgenerator mit dem Testpunkt des Tuners verbinden. Dann Monitor-Oszilloskop mit TP707 verbinden.
5. Einstellpoti JIG.1 an TP709 und P703-11 anschließen.
6. Den Ausgang des VIF-Wobbelgenerators so einstellen, daß die Wob-bel-Wellenform einen Pegel von 1,0Vss erhält. Dann mit dem Regler für Dämpfung (Attenuation DB) am VIF-Wobbelgenerator eine Dämpfung um 20dB vornehmen.
7. T702 einstellen, bis das 33,4MHz-Trap (Falle) so klein wie mög-lich wird.
8. Jetzt T701-(B) regeln, bis das 40,4MHz-Trap (Falle) minimal wird.
9. T705 regeln, bis das 32,4MHz-Trap (Falle) so klein wie möglich wird.
10. T701-(C) einstellen, bis das 31,9MHz-Trap (Falle) minimal wird.
11. VR1 des Einstellpoti JIG.1 einstellen, bis die Wobbe-lamplitude 1,0Vss wird,
12. Konverterspule des Tuners einstellen sowie T701-(A), bis die Aus-gangswellenform der folgenden Abbildung entspricht.

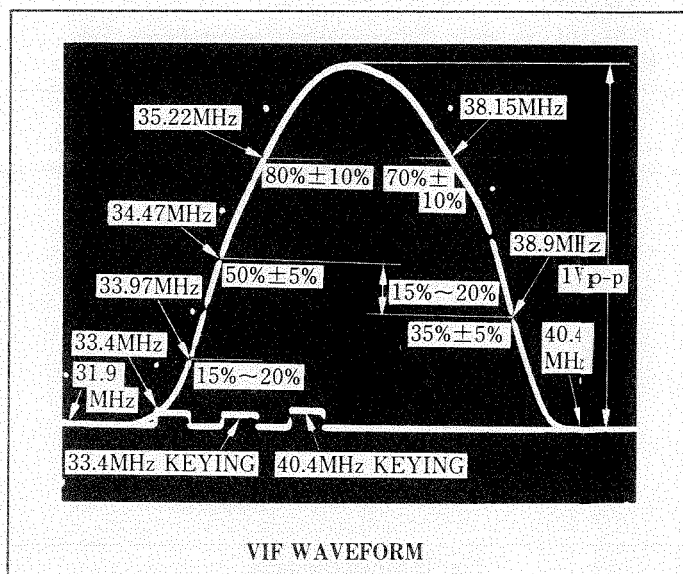


Fig. 40

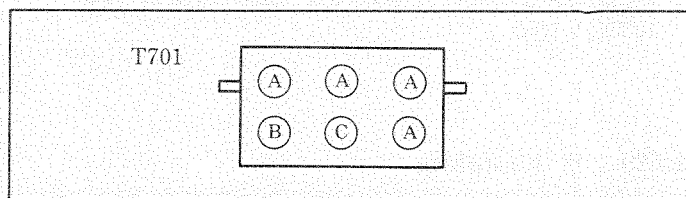


Fig. 41

2.3.27. Einstellen der VIF-Wobbelung

TP	ADJ.	MODE	INPUT
TP707	T701 T702 T705 (EG)		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. BAND-Schalter am Recorder auf VHF stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners $15V \pm 1V$ erreicht.
2. AFC-Schalter des Recorders ausschalten.
3. Einen Schalldrath zwischen TP701 und Masse anschließen. Dann ei-nen 100Ω -Widerstand zwischen TP704 und T P705 anschließen.

2.3.28. Einstellen der SIF-Wobbelung

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. BAND-Schalter des Videorecorders auf VHF stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners $15V \pm 1V$ beträgt.
2. AFC-Schalter des Recorders ausschalten.
3. SIF-Wobbelgenerator an TP706 anschließen, das Monitor-Oszilloskop an TP710 anschließen.
4. Einstellpoti an beide Punkte TP709 und P703-11 anschließen. VR1 des Einstellpoti JIG.1 regeln, bis der Pegel der Gleichspannung unter 5 V wird.
5. Den Ausgang des SIF-Wobbelgenerators auf 700mVss ohne Last einstellen.
6. T752 einstellen, bis die Dämpfung (Attenuation) des 5,5MHz-Trap (Falle) minimal wird.
7. T751 auf maximale Spitzen-zu-Spitzen-Amplitude des Frequenzgangs "S", wie unten gezeigt, einstellen.

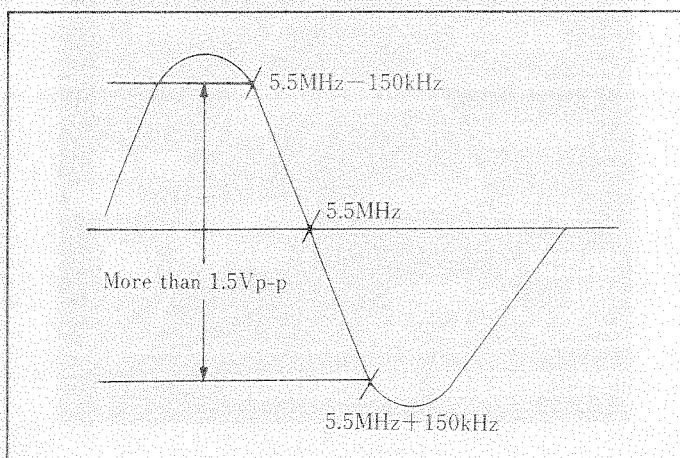


Fig. 42 SIF-Wellenform

8. Prüfen, ob der Pegel zwischen den 150kHz-Marken über 1,5Vss beträgt.

2.3.29. AFC-Einstellung

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OS- CILLATOR/ D.V.M.	$6.5 \pm 0.3V$	

1. BAND-Schalter des Videorecorders nach oben auf VHF (VH) stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners $15V \pm 1V$ erreicht.
2. CW-Oszillatorausgang auf 38,9MHz 1Vss stellen und den Ausgang des CW-Oszillators mit dem Tuner-Testpunkt (TUNER TEST POINT) verbinden.
3. Digital-Voltmeter mit dem AFC-Anschluß des Tuners verbinden.
4. Prüfen, ob der Wert "A" des Digital-Voltmeters 6,5V beträgt, wenn der AFC-Schalter ausgeschaltet ist.
5. AFC-Schalter einschalten und T704 auf $6,5 \pm 0,3V$ einstellen.
6. Die Frequenz des CW-Oszillators auf $\pm 100kHz$ ändern, dabei liegt die Mittelpunkteinstellung bei 38,9MHz. Prüfen, ob die Differenz der AFC-Spannung über $\pm 2V$ beträgt.

2.3.30. Prüfen des Video- und Burst-Pegels

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLO- SCOPE	VIDEO LEVEL $1.0 \pm 0.2V_{p-p}$ BURST LEVEL $240 \pm 20mV_{p-p}$	

1. RF COLOUR BAR-Signal (Farbbalkensignal) in den Anschluß RF IN TERMINAL einspeisen, dann dieses Signal abstimmen.
2. AFC-Schalter einschalten.
3. Prüfen, ob der Videopegel bei TP711 $1.0 \pm 0,2V_{ss}$ liegt.
4. VR741 einstellen, bis der Burst-Pegel, wie unten gezeigt, $240 \pm 20mV_{ss}$ beträgt.

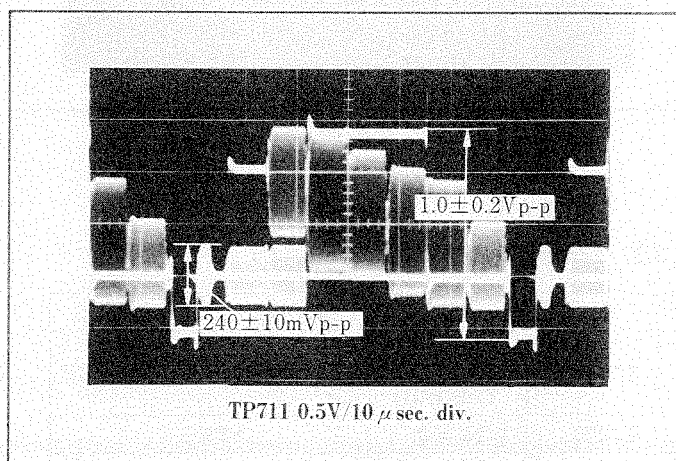


Fig. 43

TV DEMODULATOR

MODELL-NR.: NV-730E

2.3.31. Werkzeuge und Meßinstrumente

Folgende Werkzeuge und Meßinstrumente bereithalten:

1. VIF-Wobbelgenerator mit Trap-Einsteller 38,9MHz
2. SIF-Wobbelgenerator 5,5MHz±150kHz
3. CW-Oszillator 38,9MHz±100kHz
4. Monitor-Oszilloskop
5. Oszilloskop
6. Digital-Voltmeter

2.3.32. Selektivspule-Einstellung

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP MONITOR SCOPE	A=2V _{p-p} B=38.9MHz	

1. BAND-Schalter des Videorecorders nach oben auf VHF (VH) stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners 15 V beträgt.
2. AFC-Schalter am Recorder ausschalten (OFF-Position).
3. VIF-Wobbler an TP703 und Monitor-Oszilloskop an TP707, wie unten gezeigt, anschließen.

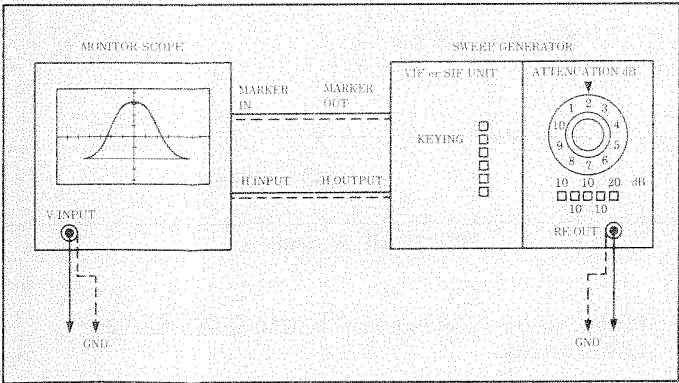


Fig. 44 Anschluß der Meßgeräte

4. Einstellpoti, wie unten gezeigt, mit TP709 und P703-11 verbinden.

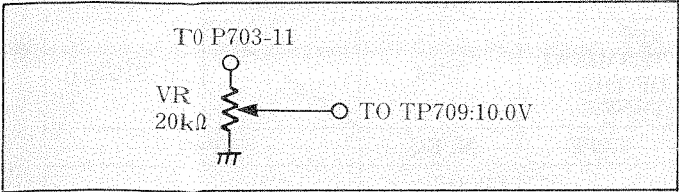


Fig. 45 Einstellpoti

5. Jetzt den Ausgang des VIF-Wobbelgenerators einstellen, bis ein Pegel, wie in Fig. 38 gezeigt, von 2 V_{ss} erzielt wird.
6. Zur Einstellung T704 2 Umdrehungen nach links oder rechts drehen.
7. T703 so einstellen, daß die Marke bei 38.9MHz entsprechend der Abbildung zum Spitzenpegel wird.

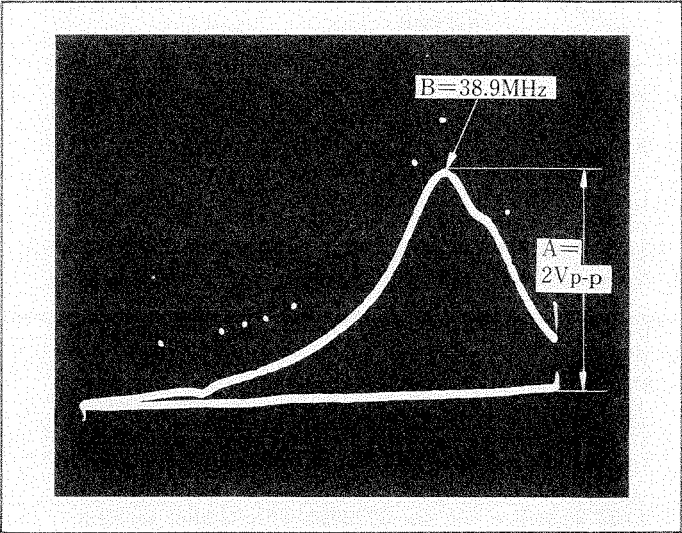


Fig. 46

8. Dann T704 so einstellen, daß die Marke bei 38,9 MHz die unten gezeigte Form annimmt.

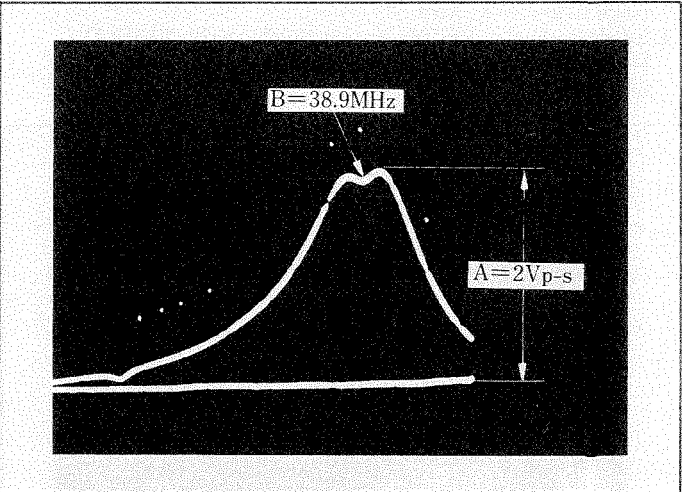


Fig. 47

2.3.33. Einstellen der VIF-Wobbelung

TP	ADJ.	MODE	INPUT
TP707	T701 T702 T705 (EG)		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. BAND-Schalter am Recorder auf VHF stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners $15V \pm 1V$ erreicht.
2. AFC-Schalter des Recorders ausschalten.
3. Einen Schalt Draht zwischen TP701 und Masse anschließen. Dann einen 100Ω -Widerstand zwischen TP704 und TP705 anschließen.
4. VIF-Wobbelgenerator mit dem Testpunkt des Tuners verbinden. Dann Monitor-Oszilloskop mit TP707 verbinden.
5. Einstellpoti JIG.1 an TP709 und P703-11 anschließen.
6. Den Ausgang des VIF-Wobbelgenerators so einstellen, daß die Wobbel-Wellenform einen Pegel von $1.0V_{ss}$ erhält. Dann mit dem Regler für Dämpfung (Attenuation DB) am VIF-Wobbelgenerator eine Dämpfung um 20 dB vornehmen.
7. T702 einstellen, bis das 33,4MHz-Trap (Falle) so klein wie möglich wird.
8. Jetzt T701-(B) regeln, bis das 40,4MHz-Trap (Falle) minimal wird.
9. T701-(C) regeln, bis das 31,9MHz-Trap (Falle) so klein wie möglich wird.
10. VR1 der Einstellpoti JIG.1 einstellen, bis die Wobbelamplitude $1.0V_{ss}$ wird.
11. Konverterspule des Tuners einstellen sowie T701-(A), bis die Ausgangswellenform der folgenden Abbildung entspricht.

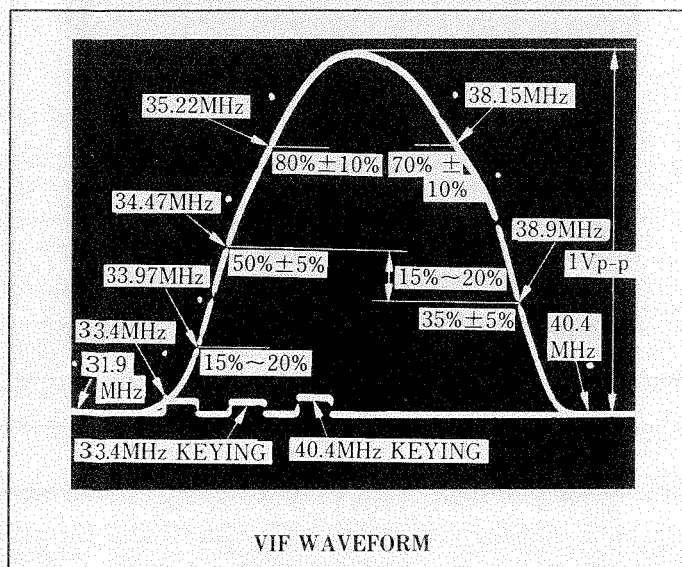


Fig. 48

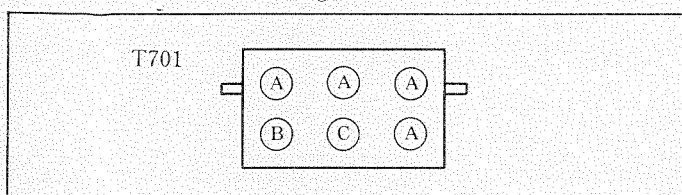


Fig. 49

2.3.34. Einstellen der SIF-Wobbelung

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. BAND-Schalter des Videorecorders auf VHF stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners $15V \pm 1V$ beträgt.
2. AFC-Schalter des Recorders ausschalten.
3. SIF-Wobbelgenerator an TP706 anschließen, das Monitoroszilloskop an TP710 anschließen.
4. Einstellpoti an beide Punkte TP709 und P703-11 anschließen. VR1 der Einstellpoti JIG.1 regeln, bis der Pegel der Gleichspannung unter 5 V wird.
5. Den Ausgang des SIF-Wobbelgenerators auf $700mV_{ss}$ ohne Last einstellen.
6. T752 einstellen, bis die Dämpfung (Attenuation) des 5,5MHz-Trap (Falle) minimal wird.
7. T751 auf maximale Spitzen-zu-Spitzen-Amplitude des Frequenzgangs "S", wie unten gezeigt, einstellen.

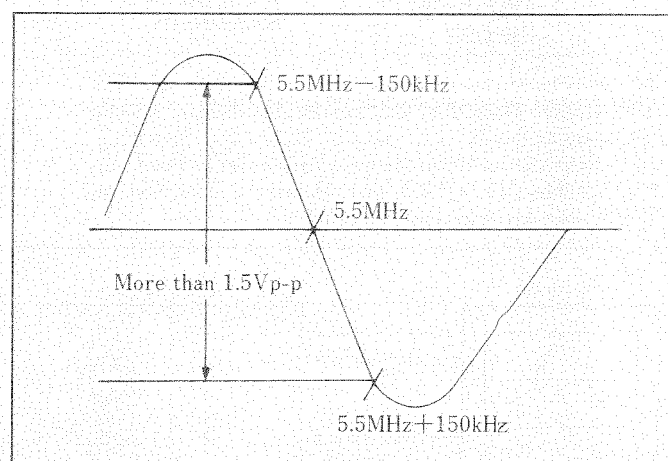


Fig. 50 SIF-Wellenform

8. Prüfen, ob der Pegel zwischen den 150kHz-Marken über $1.5V_{ss}$ beträgt.

2.3.35 AFC-Einstellung

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OS- CILLATOR/ D.V.M.	$6.5 \pm 0.3V$	

1. BAND-Schalter des Videorecorders nach oben auf VHF (VH) stellen. Dann den Abstimm-Regler drehen, bis die Spannung an der BT-Klemme des Tuners $15V \pm 1V$ erreicht.
2. CW-Oszillatorausgang auf 38,9MHz 1Vss stellen und den Ausgang des CW-Oszillators mit dem Tuner-Testpunkt (TUNER TEST POINT) verbinden.
3. Digital-Voltmeter mit dem AFC-Anschluß des Tuners verbinden.
4. Prüfen, ob der Wert "A" des Digital-Voltmeters 6,5V beträgt, wenn der AFC-Schalter ausgeschaltet ist.
5. AFC-Schalter einschalten und T704 auf $6,5 \pm 0,3V$ einstellen.
6. Die Frequenz des CW-Oszillators auf $\pm 100kHz$ ändern, dabei liegt die Mittelpunkteinstellung bei 38,9MHz. Prüfen, ob die Differenz der AFC-Spannung über $\pm 2V$ beträgt.

2.3.36. Prüfen des Video- und Burst-Pegels

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLO- SCOPE	VIDEO LEVEL $1.0 \pm 0.2V_{p-p}$ BURST LEVEL $240 \pm 20mV_{p-p}$	

1. RF COLOUR BAR-Signal (Farbbalkensignal) in den Anschluß RF IN TERMINAL einspeisen, dann dieses Signal abstimmen.
2. AFC-Schalter einschalten.
3. Prüfen, ob der Videopegel bei TP711 $1.0 \pm 0.2V_{ss}$ liegt.
4. VR741 einstellen, bis der Burst-Pegel, wie unten gezeigt, $240 \pm 20mV_{ss}$ beträgt.

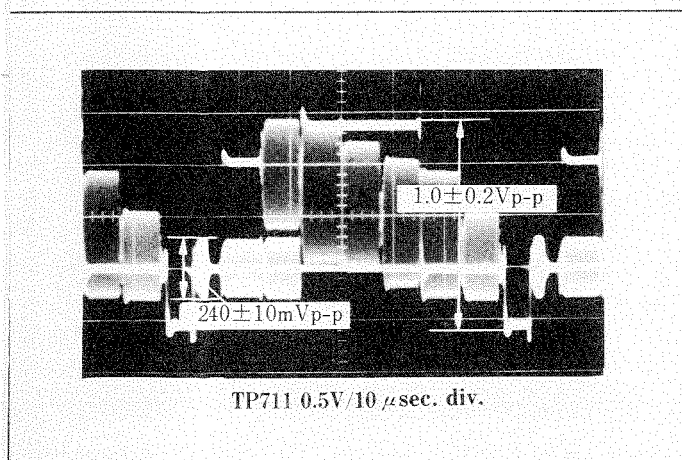


Fig.51

Panasonic
MATSUSHITA ELECTRIC